"COMPARATIVE STUDY OF TRICHOMONAS VAGINALIS INFECTION IN SYMPTOMATIC AND ASYMPTOMATIC FEMALE PATIENTS ATTENDING STD OUTPATIENT DEPARTMENT DIAGNOSED BY WET MOUNT AND CULTURE METHOD"

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(BRANCH XX)

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CERTIFICATE

Certified that this dissertation titled **"COMPARATIVE STUDY OF TRICHOMONAS VAGINALIS INFECTION IN SYMPTOMATIC AND ASYMPTOMATIC FEMALE PATIENTS ATTENDING STD OUTPATIENT DEPARTMENT DIAGNOSED BY WET MOUNT AND CULTURE METHOD"** is a bonafide work done by **Dr.ANUPAMA.M.P,** Post graduate student of the Department of Dermatology, Venereology and Leprosy, Madras Medical College, Chennai – 3, during the academic year 2010 – 2013. This work has not previously formed the basis for the award of any degree.

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I solemnly declare that the dissertation entitled **"COMPARATIVE STUDY OF TRICHOMONAS VAGINALIS INFECTION IN SYMPTOMATIC AND ASYMPTOMATIC FEMALE PATIENTS ATTENDING STD OUTPATIENT DEPARTMENT DIAGNOSED BY WET MOUNT AND CULTURE METHOD"** is a bonafide work done by me at Madras Medical College during 2010-2013 under the guidance and supervision of **Prof.Dr.V.SUDHA, MD, DV, DD.,** Director and Professor, Institute of Venereology and **Prof.Dr.MANGALA ADISESH, M.D,** Professor and Head of the department of Serology, Institute of Venereology, Madras Medical College, Chennai-600003.

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CONTENTS

INTRODUCTION

Trichomoniasis also known as trich, is caused by pathogenic protozoan Trichomonas vaginalis (T.vaginalis), which is the most common non-viral sexually transmitted infection (STI).

Trichomoniasis accounts for more than half of all the curable sexually transmitted infections worldwide.[1] It causes approximately 180 million infections worldwide annually. Many infected persons remain asymptomatic, when symptomatic, it presents with vaginitis, cervicitis, PID and infertility in women and non-Gonococcal urethritis in men. Women infected during pregnancy are predisposed to adverse pregnancy outcomes like premature rupture of membrane, premature labour and low birth weight infants.[2]

Infection with Trichomonas vaginalis is a marker for high-risk sexual behaviour and high prevalence rates in many populations indicate the need for counselling and behavioural change to reduce patients risks for acquiring other STI and Human Immunodeficiency virus infection.[3][4] Trichomoniasis increases the risk of transmission of HIV infection to 2 fold rise due to local inflammation and disruption of cervical epithelial barrier.

Coinfection with T. vaginalis and HIV results in “epidemiological synergy” with prolonged or augmented infectiousness of both the infections.[3][5]

Trichomoniasis is highly prevalent in sexually active women ranging from 5% to 74% and in men prevalence is 5 % to 29%. About 10 to 50% of patients harbor Trichomonads without developing any symptoms that serves as major reservoir of infection.[6]

In this background we planned to conduct a study to diagnose and compare Trichomonas infection in asymptomatic and symptomatic female patients attending STD outpatient department, using wet mount and culture as diagnostic methods.

HISTORY

Trichomonas vaginalis was first described in 1836 by a French physician Alfred Donne who observed the organism in fresh preparation of vaginal discharge.[7] It was designated as Trichomonas vaginalis by Ehrenberg in 1838.[8]The protozoa was regarded as harmless inhabitant of vagina for longer period and in 1916 Hohne et al identified its role as causative agent of vaginitis.[7]

In 1940, Koch's postulates were fulfilled establishing, T.vaginalis as an etiologic agent of vaginitis.[9][10]T.vaginalis began to receive increased attention as a cause of urogenital morbidity in women and in men as well. In 1961, Lang and Ludmir discussed the 'strawberry cervix' appearance of ectocervix due to the local extravasation of blood resulting in petechiae. Trussell et al in 1942 first reported this infection by the flagellate in a newborn. [8] In the diagnosis of Trichomonas vaginalis infection, microscopy and the culture methods are most widely used. In 1988 Kreiger et al developed the antibody-based immuno-histochemical procedures.[11]

EPIDEMIOLOGY

Prevalence reports for Trichomoniasis vary widely according to the diagnostic method used. Worldwide, the annual incidence of Trichomonas vaginalis is estimated to be around 180 million cases when

compared with 89 million cases of Chlamydia, 62 million cases of Gonorrhea and 12 million cases of Syphilis.[12]

Prevalence of Trichomoniasis varies from 2 to 60.6% in different parts of India.[13][14]In high-risk population and STD clinic attendee's prevalence ranges from 7 % to 74% in women and 5 to 29% in men.[15]

A higher prevalence of Trichomoniasis was found in Blacks, multiparous women, women married at early age and during pregnancy.[14] Other risk factors are multiple sexual contacts, poor personal hygiene and low socioeconomic status.[16]Trichomoniasis associated with HIV infection can facilitate its transmission and acquisition of the virus by eliciting inflammatory response in the vaginal epithelium. There is 2 to 3 fold increase in HIV transmission in Trichomonas vaginalis infected patients [17][18] and the prevalence rate of T. vaginalis in HIV patient's ranges from 9 to 30%.[19][20] The possible mechanisms for increased transmission of HIV in T.vaginalis infection are:[12]

1) Infection with Trichomonas vaginalis results in an inflammatory response, which leads to recruitment of CD4 lymphocytes and macrophages to the vaginal and cervical mucosa.

2) Trichomonas vaginalis has a direct cytopathic effect in vitro, resulting in punctate microhaemorrhages potentially compromising the mechanical barrier to HIV acquisition.

3) Trichomonas vaginalis has been shown to be associated with increased viral load in the seminal and cervico-vaginal compartments.

4) Finally, studies have shown that Trichomonas vaginalis increases susceptibility to Bacterial vaginosis or colonization with other abnormal vaginal flora that in turn could increase risk of HIV acquisition.

Concomitant infection with other sexually transmitted infections occurs with Trichomoniasis.[21] Mixed infections with Trichomoniasis and Neisseria Gonorrhoea and Chlamydia trachomatis occurred in 1.4% of 504 East African transport workers while 61.5% of 91 men with Trichomoniasis in West Africa had coinfection with Gonococcal infection.[21]

TRANSMISSION

Sexual transmission

Trichomonas vaginalis is almost exclusively acquired through the sexual contact with infected partner. The transmission rate is as high as 14 to 60% in men after single exposure to an infected woman[11] where as Trichomoniasis is isolated from 67 to 100% in female partner of

infected men.[22][23] Asymptomatic men and women are the important reservoirs of infection. Trichomoniasis detected in prepubertal age should raise the suspicion of sexual abuse.[24]

Non- venereal transmission

Nonsexual transmission can occur by contaminated douche nozzles, speculum, or the toilet seats, through which Trichomonads may find their way into the vagina.[25] However, such cases are very rare, because organism is very sensitive to desiccation. The live T.vaginalis has been found in urine and in semen after several hours of exposure to air and can survive up to 1hr in toilet seat, wet clothes and swimming pool water.[26]Prenatal transmission occurs in 2 to 17% of female children of infected mothers and may be accompanied by suppurative nasal discharge and respiratory distress.[20] [27]

PARASITE TAXONOMY AND MORPHOLOGY

Trichomonads are flagellated eukaryotic microbes that belong to the protozoan order Trichomonadida.Over more than 100 species are known and the most are commensals of intestinal tract of mammals and birds. The three species found in humans are Trichomonas vaginalis of genitourinary tract, Trichomonas tenax of oral cavity and Trichomonas Pentatrichomonas hominis of intestine.[27]Trichomonas represents one of the most ancient eukaryotic lineages considered as the primitive eukaryote as it lacks many features like mitochondria, peroxisomes and

28s ribosomes. [27] The size and shape of Trichomanads vary depending on the vaginal microenvironment and cultural conditions.Typically Trichomonads are pyriform shaped, 7-32 micrometer long, 5-12micrometer wide and roughly the size of leukocyte.

Trichomonads assume amoeboid form once they get attached to the host epithelium.[28] They are demonstrated by their classical erratic twitching motility as they are propelled by 4 anterior flagella that originates from the kinetosomal complex. The 5^{th} flagella originates from the kinetosomal complex and extends halfway down the organism attached to the undulating membrane supported by the complex array of filaments known as costa. It contains an anterior nucleus containing five chromosomes, a parabasal apparatus, a golgi complex and an axostyle that runs centrally through the cell and protrudes from a posterior tail or projection. Parallel to axostyle and costa there are three rows of large chromatic granules including hydrogensomes. Hydrogenosomes are characteristic organelles found in Trichomonas vaginalis and other protozoa that lack mitochondria. These are double membrane bound structures that generate hydrogen and ATP from the metabolism of pyruvate.

Trichomonads are generally thought to exist only in the motile, vegetative trophozoite form and true cysts form have not been described. Under unfavourable environmental conditions T.vaginalis appear in

vitro as pseudocysts.[30,31] These Pseudocysts have altered structural features like internalized flagellae and a compact form which lacks a true cell wall.[32]

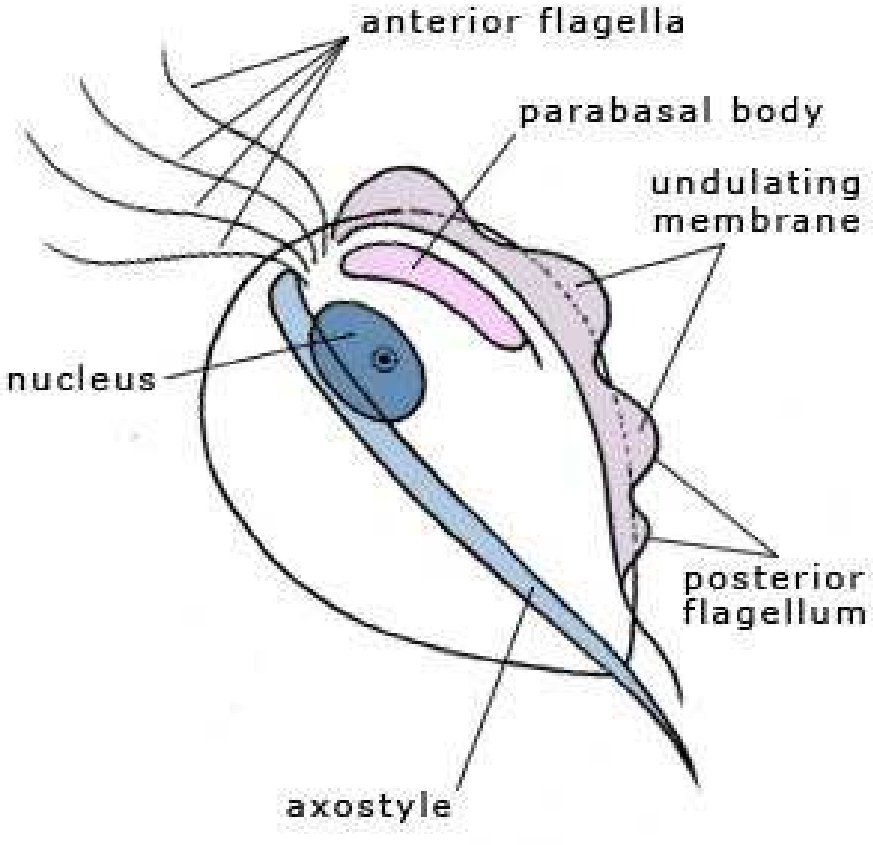

Figure 1.Structure of Trichomonas vaginalis.

T.VAGINALIS GENETICS AND BIOLOGY

Trichomonads reproduce asexually by mitosis followed by the longitudinal cell division. In an unusual process known as closed mitosis, the parasite nuclear envelope remains intact and the mitotic spindle is external to the nucleus. The results of electrophoretic and cytologic analyses suggest that the T.vaginalis nucleus contains six haploid chromosomes.[33-35]The genomic sequencing of the protozoan

suggest a highly repetitive genome of approximately 180 mega bases that is much largerthan anticipated bases on earlier studies[36] but the exact genome size and chromosome number are uncertain. The haploid nature of T. vaginalis is confirmed by the ability to disrupt genes by homologous recombination. [37,38]

GROWTH AND METABOLISM

The growth and multiplication of T.vaginalis is optimal in microaerophilic or anaerobic conditions with the temperature range between 35°C and 37°C and pH levels between 4.9 and 7.5.[27]The organisms can be cultivated in nutrient media with the optimum redox potential, pH, and added antimicrobials to suppress other microorganisms.[39] More robust, smaller organisms are observed at pH 5.5–5.8, whereas less motile and larger organisms are encountered at pH levels lower or higher than the optimum pH .

T.vaginalis is an aerotolerant anaerobic protzoan and its growth is inhibited at high oxygen tensions due to deficiency of catalase.[40]This aerotolerance is attributed to the presence of active superoxide dismutase and whether oxygen is absent or present, Trichomonal metabolism is fermentative.

Pyruvate produced by glycolysis in the cytosol is reduced to lactate in the hydrogenosomes.T.vaginalis hydrogenosomes can also metabolize malate via decaboxylation to pyruvate. These organelles

contain pyruvate-oxidizing enzymes (pyruvate-ferredoxin oxidoreductase) and hydrogenase that are linked by an electron transport protein of low redox potential.The Trichomonad hydrogenosomes are also important in drug activation. Metronidazole and other nitroimidazoles, used in the treatment of Trichomoniasis, enter the cell by passive diffusion in an inactive form which are subsequently activated by hydrogenosomes to active form.[41] Electrons required for drug activation are thought to be provided by 2Fe-2S ferredoxin. (Ferredoxin-linked electrons are generated during oxidative decarboxylation of pyruvate catalyzed by pyruvate: ferredoxin oxidoreductase).

The mechanism of development of anaerobic resistance to Metronidazole is controlled by hydrogenosome in that Metronidazole competes for hydrogen ions as an electron acceptor. In Metronidazole-resistant Trichomonas vaginalis the levels of hydrogenosomal enzymes (pyruvate-ferredoxin oxidoreductase, ferridoxin, malic enzyme and hydrogenase) expression is reduced dramatically, which is likely to eliminate the ability of the parasite to activate Metronidazole.[29]

Trichomonads, like most other parasitic protozoa, are unable to synthesize purine ring structures or to interconvert purine nucleotides but however it can salvage the purine bases, adenine and guanine and their nucleosides.[28]T.vaginalis also possess hemolytic activity and its

specific association with erythrocytes (hemagglutination) and subsequent hemolysis are thought to be important for destruction of erythrocytes in menstrual blood, with the release of iron, lipids and fatty acids for parasite membrane biosynthesis.

PATHOGENESIS

T.vaginalis penetrates the mucous layer and gain access to the underlying epithelial cells and attaches, resulting in tissue damage and inflammation with the help of enzymes and adhesins.[42]

T.vaginalis enzymes and adhesins

T .vaginalis produces many proteolytic enzymes that are involved in cytotoxicity, hemolysis, evasion of immune responses and adherence. Trichomonal enzymes are also found in vaginal secretions of the infected women along with the antibodies that recognize these enzymes.[42-44] Trichomonads binds to mucin in vitro, and several secreted proteinases can degrade mucin which are active at pH range of 4.5–7.0[44] that is consistent with its role in the vaginal, urethral, or prostatic PH to facilitate parasite penetration of the mucous barrier.

After traversing the mucous layer, Trichomonads adhere to epithelial cells that mediated by parasite surface adhesion proteins known as APs. The organism contains soluble and membrane-associated enzymes with phospholipase A (PLA) activity. [45-47]These PLAs lyses the nucleated mammalian cells and red blood cells in vitro and

contribute to tissue damage and inflammation in Trichomoniasis. The disruption of polarized epithelial monolayers by T.vaginalis facilitate penetration of HIV to underlying layers. Trichomonads adhere not only to host epithelial cells but also to the extracellular matrix components like fibronectin and laminin.[48] This binding of trichomonads to the host extracellular matrix is important for the persistence of infection after the vaginal epithelium has been exfoliated, either by parasite-induced cytopathological effects (CPE) or shedding during the menstrual cycle.

Host component associated with T .vaginalis

Numerous host macromolecules like alfa1-antitrypsin, alfa 2macroglobulin, fibronectin, lactoferrin and many iron-binding and iron-containing proteins, lipoproteins[49] are known to coat the Trichomonas vaginalis cell surface. These macro molecules are important for the survival of the parasite in vivo and contribute to Trichomonas vaginalis metabolism and pathogenicity either by biological mimicking or by accumulation of nutrients from the host. The binding of host lactoferrin to parasite surface receptor results in increased iron uptake by the parasite which in turn results in increased parasite intracellular enzyme activity and the growth of parasite in high iron pool results in increased expression of many virulence genes involved in adherence.[50]

HOST IMMUNE RESPONSE

Infection with T.vaginalis elicits cellular, humoral and secretory immune responses. However, this response does not have protection against reinfection. Repeated infections are commonly encountered in women and a history of prior treatment for Trichomoniasis itself is a risk factor for infection.[51]

i) Inflammatory responses

The vaginal or urethral inflammation is characterized by an influx of polymorphonuclear leucocytes and it represents the most obvious host response to infection with T.vaginalis. T.vaginalis can stimulate neutrophils to produce IL-8 through activation of toll-like receptor 4 (TLR4).[52] IL-8 is a potent chemoattractant produced by neutrophils and epithelial cells in response to microbial infection, and its stimulation likely induces further neutrophil recruitment to the site of infection. Increased proinflammatory cytokine production in Trichomoniasis is consistent with increased HIV transmission, providing an explanation for the observed epidemiological synergy. T.vaginalis also activates HIV-infected leucocytes resulting in TNF-alpha production and increased viral replication. [27]

ii) Antibody and complement

The antibodies and complement components present in the serum and genital fluids of the individuals with Trichomoniasis can bind the surface of T.vaginalis and stimulate the neutrophil respiratory burst

facilitating parasitic killing via classical and alternative complement pathways. There is little evidence that antibodies against Trichomonal antigens like heat shock proteins, cysteine proteases contribute to parasite clearance. Furthermore, persistent Trichomonal infections, a hallmark of Trichomoniasis, suggest that humoral response is not broadly protective.[53]T.vaginalis resistance to humoral immune response may be due to parasite production of proteinases that can cleave human immunoglobulins and complements. Expression of these proteolytic enzymes is upregulated under certain conditions like high iron levels present during menstruation.However, there is evidence that antibodies that block attachment of the parasite to mucosal surfaces could be protective.[54]

CLINICAL PRESENTATION

Sites of Infection:

In women, T.vaginalis has been isolated from all genitourinary sites. Vaginal infection is the most common site followed by infection of the urethra, Bartholin's glands, Skene's glands and endocervix.[27] While concomitant infection of the urethra occurs in a majority of women with vaginal Trichomoniasis. Among women infected with T.vaginalis, almost 10% demonstrated positive cultures only from the urethra.[55]

i) Infection in women

The spectrum of clinical presentations with T.vaginalis infection ranges from asymptomatic disease, to severe vaginitis. The incubation period for T.vaginalis infection has been reported to be between 4-28 days.[28] About 50% of women are asymptomatic, but about 30% of this group develop symptoms when they are observed for 6 months.[56] The most common presenting complaint among women diagnosed with T.vaginalis is vaginal discharge, seen in more than 50% of cases, followed by pruritus or dysuria and abdominal pain. One study of 200 Nigerian women demonstrated 74% with vaginal discharge were infected with T.vaginalis.[2] The vaginal discharge can have any colour and be malodorous. The other symptoms include pruritus, dysuria and abdominal pain. Some women remain asymptomatic until after menses, suggesting a role for iron in the pathophysiology of Trichomoniasis.[50]

On genital examination, vulvar erythema and edema may be noted. On speculum examination, the vaginal discharge can have any color or characteristic frothy yellow or greenish discharge. The vaginal walls may also appear erythematous. Colpitis macularis or 'strawberry cervix' is a result of microscopic, punctate hemorrhages on the cervix, this may be observed in lesser than 5% of women with Trichomoniasis. However, a large proportion of Trichomoniasis cases with colpitis macularis can be identified using colposcopy.[27]Although uncommon, this finding is highly specific for Trichomoniasis. The resulting

cervicitis may lead to postcoital bleeding and cervical friability. Cervical mucopurulence and/or cervical erythema have also been observed, but these findings are neither sensitive nor specific; other STIs such as Gonorrhoea and Chlamydial infection should also be considered.

Women with Trichomoniasis are more likely to present with an elevated vaginal pH, amine odor, milky discharge, or colonization by Gardenella vaginalis, Bacteriodes species or genital Mycoplasamas than women with normal vaginal flora. Since the vaginal environment for Trichomoniasis and Bacterial vaginosis (BV) are same, BV is found concomitantly in 25-60% of women with Trichomoniasis.[27]

ii) Recurrent and persistent Trichomoniasis

The common source of recurrent Trichomoniasis is an untreated partner and organisms that are resistant to antimicrobial therapy.[53]No clinical symptoms or signs can differentiate between susceptible or resistant infections. A history of potential reexposure or sexual activity with an untreated sexual partner should allow differentiation between reinfection and persistent infection.

Factors associated with Trichomonas vaginalis infection in women

Because of non-specific clinical presentation, studies have focused on identifying predictors of infection in women. Factors associated with Trichomonas vaginalis infection are given in table 1.

Reproductive complications in women

Trichomonas vaginalis is associated with a variety of adverse health consequences in both men and women. The associated morbidities and complications in women include:

- Risk factor for HIV transmission. [66]
- Associated with pelvic inflammatory disease. [67]
- Greater risk for tubal infertility. [11]
- Ectopic pregnancy. [28]
- Premature rupture of membranes, preterm birth and low birth weight. [11]
- Increased risk of post-hysterectomy infection. [2]
- Risk factor for cervical neoplasia. [62]
- Neonatal pneumonia in babies born to mothers with T.vaginalis infection.[20]

Table-1: Factors independently associated with T.vaginalis infection.

Demographic characteristics	U.S African American race.[57] Low education attainment. [58] Unemployment.
Behavioral characteristics	Sex with non-steady partner. [59] Separated women. Prostitution. [59] Failure to use contraception. [60] Self-reported infertility. [61] Smoking. [62] Alcohol. [63] Injecting drug abuse. [64] Marijuana use. [65]
Clinical characteristics	Older women (30-49 years). [64] Vaginal pH >5. Concomitant sexually transmitted infections- Chlamydia, Gonorrhoea, Bacterial vaginosis, Mycoplasma hominis, Ureaplasma. [65]

DIAGNOSIS

Diagnosis of Trichomoniasis based on the classical clinical symptoms of yellowish-green frothy discharge, pruritus, dysuria, dyspareunia, and "strawberry" cervix[68]cannot be made solely because of following reasons:

- The clinical symptoms of Trichomoniasis is synonymous with those of other STDs .[69-72]
- The classic finding "strawberry" cervix is approximately seen in 2% of patients.

- The frothy discharge is seen in only 12% of women with Trichomonas vaginalis.[24]

In 1980, Fouts and Kraus demonstrated that if only the classic features are used alone in the diagnosis of Trichomoniasis, as many as 88% of infected women will not be diagnosed and 29% of uninfected women will be falsely diagnosed as having infection.[24]Hence the clinical manifestations are not reliable diagnostic parameters and the laboratory investigations are necessary for the accurate diagnosis of Trichomoniasis.

METHODS OF SPECIMEN COLLECTION

VAGINAL:[73]

- Clean the external genitalia using a sterile gauze swab moistened with sterile normal saline
- Insert a warmed vaginal speculum moistened with sterile saline.
- Material is obtained under direct vision from the posterior and lateral fornices of the vagina using sterile cotton/dacron swabs or disposable 10µL bacteriological loops.
- In women who have undergone hysterectomy, specimens are taken from lateral fornices of the vagina.
- Vaginal swabs from unmarried women are performed through the hymen opening from the posterior wall of vagina (a speculum

should not be used) or specimens can be obtained from the introitus.

FIRST CATCH URINE:[73]

The FCU specimen (approximately 10–15 mL) has to be collected into a sterile container. The urine may be centrifuged and the pellet tested. However, the sensitivity of urine testing is lower than that of vaginal sampling.

DIRECT MICROSCOPIC EXAMINATION

Diagnosis of Trichomonas vaginalis infection in most parts of the world is carried out by saline wet preparation method. T.vaginalis is identified as pear-shaped organisms about the size of a pus cell with typical jerky /erratic twitching movement. In most of the cases, increased numbers of polymorphonuclear leucocytes are present. The Trichomonas vaginalis is difficult to differentiate from the nucleus of a vaginal epithelial cell when it is immotile. Motility is dependent mainly on the temperature of the specimen. At room temperature in phosphate-buffered saline, the organism will remain alive for more than 6 hrs however, the motility of the organism becomes significantly attenuated at lower temperatures.[73]Diagnosis by wet mount requires visualization of viable, motile protozoa and hence specimens must be examined immediately. The wet mount technique has low sensitivity of 30 to 80%.[74] The sensitivity of wet-mount is further reduced as a result of

even short delays between specimen collection and microscopic examination.[75]

The accuracy of the diagnosis is dependent on two factors:

- The specimen should remain moist to retain viability and therefore the motility of the Trichomonads (the microscopy should be performed within 30 min of preparation of the wet mount) and
- The microscopist should be skilled in recognizing Trichomonads.[76]

A minimum of 10^4 organisms per milliliter of vaginal fluid appears to be necessary for the identification of the Trichomonas vaginalis by wet mount. The various staining methods like acridine orange, Giemsa, fluorescein, neutral red, immunoperoxidase and Periodic Acid-Schiff have been described to improve the sensitivity of microscopic evaluations. Routine Papanicoloau stained smears have demonstrated T.vaginalis on cytological examination in asymptomatic women.[77]However, detection using the Papanicolaou test results in a high percentage of false-negative results with a sensitivity of 60% and a specificity of 95–97%.[77,78] Confirmation of the finding of Trichomonads using another method is recommended.

According to the 2006 guidelines for the treatment of STI published by Centre for Disease Control and Prevention (CDC), a culture of vaginal secretions is recommended when T.vaginalisis suspected clinically but not seen on a wet mount.[79]

CULTURE

Culture in liquid medium has remained the gold standard for the diagnosis of Trichomonas vaginalis infection for the past 40 years and has the higher sensitivity of 71-100% and specificity of 100%.[27] It is very useful method when the organism load is low as in asymptomatic women and men with chronic disease, as it requires as few as 300-500 Trichomonads/ml of inoculum to initiate growth in culture.[28] The various media that have been used to detect Trichomonads are Diamond (Tripticase, yeast and maltose), Modified Diamond, Kupferberg's Trichosel medium, Lash, NIH, Feinberg-Whittington media and cysteine peptone liver media (CPLM). The formulations of Diamond medium are superior to that of Kupferberg or Lash medium for the growth of Trichomonas vaginalis.[80]

The standard broth used is Diamond's medium, eventually modified according to Fouts and Kraus, i.e. with streptomycin replaced by netilmicin.[73] The Incubation period of 2–7 days is required to isolate Trichomonas vaginalis in culture.[81]Even when broth cultures are spiked with antibiotics to reduce contamination by vaginal flora, contamination

with bacteria is the major problem. Passage of the cultures after 2–3 days to reduce the bacterial contamination may be required to identify Trichomonas vaginalis definitively. The organism has the capacity to enter lag growth and even in well-established axenic culture and can sometimes have attenuated growth for 24–48 h before re-establishing its characteristic log/day growth.[73] Due to the expense of the technique, culture has not been readily available in many centres, but would be the most effective way of establishing the true epidemiology of Trichomoniasis vaginalis, particularly where STI clinics are remote from the clinical laboratory.

To circumvent these problems, systems such as the InPouch TV culture system have been developed whereby the specimen is inoculated into a two-chambered bag, allowing sampling for immediate wet mount microscopy and incubation for culture. Trichomonas vaginalis is an anaerobic organism that grows more slowly under aerobic conditions. It is important to note that Trichomonas vaginalis should be grown at the bottom of the pouch and the pouches ought to be incubated in a vertical position. The use of InPouch TV culture system has been shown to be at least as effective as Diamond's medium.[73, 82]

Culture of T.vaginalis should be performed using either liquid or semi liquid culture media in tubes. The volume of the media should be not less than 5ml.[73]

IMMUNOLOGICAL TESTS

Serological diagnosis by Agglutination, Indirect hemagglutination, Complement fixation, Gel diffusion, Fluorescent antibody, and Enzyme-linked immunosorbent assay are used to demonstrate the presence of antitrichomonal antibodies. Since the Trichomonal antibodies can persist for a longer time after treatment, current and past infections cannot be distinguished by these tests. Monoclonal antibodies to immunogens 62k-Da and 65-kDa proteins for the detection of T.vaginalis from the clinical specimens have shown similar results as wet-mount preparations.[73]

Rapid diagnostic test like latex agglutination test have made the prompt diagnosis of infection possible and same day treatment.[73]

MOLECULAR METHODS

Nucleic acid amplification tests like Polymerase Chain Reaction (PCR) have improved the sensitivity of diagnosis of T.vaginalis.[83]Unlike PCR for STI like Gonorrhoea and Chlamydia for which amplification results have greater sensitivity than culture methods, the currently published amplification techniques for Trichomoniasis in women do not appear to offer a similar diagnostic advantage. However, PCR is superior to culture for diagnosis of T.vaginalis in men.[27]

TREATMENT

Definitive therapy for Trichomoniasis is by nitroimidazoles (metronidazole, tinidazole, ornidazole, carnidazole, and nimorazole). Topical metronidazole is not effective for the therapy of Trichomoniasis.[84] The Centers for Disease Control and Prevention (CDC) has estimated that 5% of clinical isolates of T vaginalis exhibited some degree of Metronidazole resistance.[85] Metronidazole resistance may predict Tinidazole resistance. The CDC has proposed an escalated therapeutic regimen for the management of infection with resistant strains. Other drugs like furazolidone, a nitrofuran, was shown to be effective in vitro against both laboratory and clinical specimens with high level metronidazole resistance.

RECOMMENDED REGIMEN:[86]

1. CDC regimen (2010)

- Tab Metronidazole 2g orally in single dose (or)

- Tab Tinidazole 2g orally in single dose.

Alternative regimen

- Tab Metronidazole 500mg orally twice daily for 7 days.

In pregnancy

- Tab Metronidazole 2gm orally in single dose.

In neonatal infections [87]

- Tab Metronidazole 5 mg/kg orally three times daily for 5 days.

Treatment Failures [88-90]

Recommended regimen

- Tab Metronidazole 500mg twice daily for 7 days. (or)
- Tab Metronidazole 2g orally once daily for 3-5 days.

Alternative regimen

- Tab Tinidazole 2 g twice daily for 14 days. (or)
- Tab Tinidazole 500 mg three times daily for 7–10 days. (or)
- Tab Tinidazole 1.5 g three times daily for 14 days. (or)
- Tab Tinidazole 1 g twice daily for 14 days .

Note

- Patients on Metronidazole and other imidazoles should be cautioned not to consume alcohol while they are taking the drug, and up to 24 hours after taking the last dose.
- Metronidazole is not recommended in the first trimester of Pregnancy.
- Asymptomatic women with Trichomoniasis should be treated with the same regimen as symptomatic women.

2. WHO regimen (2003)

- Tab Metronidazole 2g orally single dose.(or)
- Tab Tinidazole 2g orally single dose.(or)
- Tab Metronidazole 400 mg orally twice daily for 7days.(or)
- Tab. Tinidazole 500 mg twice daily for 5days.

3. NACO regimen(2007)

- Tab. Metronidazle 2g orally single dose. (or)
- Tab.Tinidazole 2g orally single dose. (or)
- Tab. Metronidazole 400mg orally twice daily for 7days.

4. Syndromic management

Vaginal Discharge syndrome: Green Kit: Tab.Secnidazole 2gm single dose stat and Tab. Fluconazole 150mg single dose stat.

Partner treatment

Partners of patients with Trichomoniasis who have had sexual contact with the index patient in the past 60 days should be notified for evalution and the epidose should be given and sexual abstinence is recommended for 7 days following treatment of both the index case and the partner.

Follow up

The patients are reviewed after seven days of treatment if symptoms persist. The reinfection should be carefully excluded. Patients not cured following initial therapy often respond favourably to repeat treatment with the seven-day regimen.The resistance to the 5-nitroimidazoles may be an another cause for treatment failure.

Patients not cured with the repeated course of metronidazole can be treated with tablet metronidazole 2 g orally daily, together with 500 mg applied intravaginally each night for 3–7 days. Intravaginal metronidazole are only recommended for the treatment of refractory infections along with oral medication and not for the primary therapy of Trichomoniasis. Alternatively Metronidazole 400mg or 500mg orally twice daily for seven days can be used.

PREVENTION AND CONTROL

- Partner notification and treatment.
- The promotion of condom use and other barrier methods.
- Vaccination and immunity

Abraham et al [91] were able to induce immunity to T.vaginalis in mouse model, which lead to the development of vaccine.Immunity to infection is difficult to induce in humans because even repeated

infections do not confer immune protection despite demonstrable antibodies in serum and vaginal secretions.

To date only one vaccine had been produced against T vaginalis. The Solco Trichovac vaccine which was prepared from inactive lactobacilli and was thought to work by inducing antibodies to abnormal lactobacilli and T.vaginalis without adversely affecting the growth of normal lactobacilli in the vagina.[91] However, lack of antigenic similarity between this vaccine and T.vaginalis was shown,[92] which makes this cross-reaction hypothesis unlikely and the clinical trials of Solco Trichovac have yielded inconclusive data.[93]

AIMS AND OBJECTIVES

1) To study the prevalence of symptomatic and asymptomatic Trichomonas infection in female patients attending STD OP.

2) To study sensitivity pattern of wet mount and culture.

3) To study disease characteristics and associated STD infections with Trichomoniasis.

4) To study risk factors associated with Trichomoniasis.

MATERIALS AND METHODS

STUDY DESIGN

Cross-sectional study.

STUDY GROUP

500 female patients were enrolled in the study. 250 symptomatic and 250 asymptomatic patients are selected randomly. Patients with complaints of vaginal discharge, dysuria, dyspareunia, pruritus, lower abdominal pain are taken as symptomatic group, and patients attending STD OP for routine checkup & for screening are taken as asymptomatic group.

4 vaginal swabs were taken from the posterior fornix of each patient, one swab was used for wet mount preparation and another swab was inoculated directly into the DiamondsTYIS-33 medium and other two swabs were used for KOH and Grams staining respectively.

The Institute ethics committee clearance was obtained and informed consent was taken from the recruited women.

INCLUSION CRITERIA

- Patient aged > 18yrs and < 55yrs.
- Female patient attending STD OP with complaints of vaginal discharge, dysuria, dyspareunia, pruritus, LAP are taken as

symptomatic group, and patients attending STD OP for routine checkup & for screening are taken as asymptomatic group.

EXCLUSION CRITERIA

- Patients aged <18 to > 55yrs.
- Pregnant, lactating and menstruating women.
- Patients taken treatment with any antibiotics including Metronidazole 3 weeks prior to study period.
- 4 Patients with severe medical disorder.

HISTORY

A detailed history was obtained pertaining to the following parameters - age, occupation, socioeconomic status, educational status, marital history, sexual, contraceptive, obstetric, past, personal, recent treatment history, history suggestive of systemic ailments, and sexually transmitted infections related symptoms as per the proforma enclosed.

EXAMINATION

A thorough genital examination was done using Cusco's self retaining bivalve speculum and the abnormalities in the vulva, vagina and cervix were noted. The amount, odour, colour and consistency of vaginal discharge were noted. The discharge was labelled scanty if it was insufficient to collect on the speculum; moderate if it was sufficient to collect on the speculum and profuse if it was visible at the introitus

even before speculum insertion. The vaginal pH was measured directly using pH indicator strips against the lateral vaginal wall or over speculum blade.

SAMPLE COLLECTION

A sterile cotton swab was used to collect the vaginal discharge from the posterior vaginal fornix under direct vision and the specimen was subjected to a series of laboratory tests. However, in virgin females, the specimen was obtained from the introitus. A bimanual examination was done in all except virgins to look for adnexal tenderness.

LABORATORY INVESTIGATIONS

From each patient examined, four samples of vaginal discharge from the posterior fornix were collected with sterile cotton swabs.

1) The first swab was subjected immediately to wet mount microscopy using normal saline to observe for motile Trichomonads under 100X and 400X magnifications.

2) With the second sample, a 10% potassium hydroxide (KOH) mount was prepared and whiffed for the presence of fishy odour (Amine test) and the same was examined for the presence of budding yeast cells under 100X and 400X magnifications.

3) The third sample was immediately inoculated directly and swirled into the Diamond medium (prepared at Department of Serology,

Institute of Venereology. MMC). The culture tubes with 5ml of the broth were incubated in anaerobic atmosphere at 35^0 C.

4) The fourth sample was streaked on to a microscopic slide for Gram stain for the presence of clue cells, yeast cells and pus cells under 1000X magnification.

All participants underwent culture for Gonoccous, blood VDRL and tested for HIV antibodies.

DIAGNOSIS

1.Trichomoniasis: Diagnosis was made based on the following:

Wet mount:

A drop of normal saline was put over a clean , grease free microscopic slide. To this a drop of vaginal fluid was added and mixed well. A cover slip was put over the mixture, so that there was a uniform spread without air bubble. The slide was observed under 40 x magnification of the objective.

Reading: Pear shaped flagellated organisms approximately the size of lymphocyte (10-20 µm) or that of a small neutrophil with characteristic jerky movements.

Culture:

Diagnosis is made by performing wet mounts from the drop of Diamond's culture media for evidence of motile Trichomonads by

examining cultures after 48 hours of incubation and on 3rd, 5th and 7th day.

2. **Bacterial vaginosis:** Diagnosis was made based on Amsel's criteria in which presence of three out of the four criteria is necessary:

   a. Excessive homogenous uniformly adherent vaginal discharge.

   b. Vaginal pH more than 4.5.

   c. Positive amine test (Whiff test).

   d. Presence of clue cells on microscopic examination.

3. **Candidiasis:** Diagnosis was made based on positive microscopy and/or culture.

4. **Mucopurulent cervicitis:** Those patients whose Gram's stain of cervical smear having 30 or more polymorphonuclear leukocytes per oil immersion field in cervical mucus.

5. **Pelvic inflammatory disease (PID):** A diagnosis of PID was made if in addition to the presenting symptoms of abnormal vaginal discharge and lower abdominal pain, adnexal tenderness was elicited on examination.

MEDIA PREPARATION

Diamonds TYIS medium:

Ingredients: for 1000ml.

1. Trypticase -20gm.
2. Yeast extract -10gm.
3. Maltose -5gm.
4. L.Cysteine hydrogen phosphate- 0.5gm.
5. L.Ascorbic acid - 0.2gm.
6. Dipotassium hydrogen phosphate -0.8gm.
7. Potassium dihydrogen phosphate -0.5gm.
8. Agar -0.5gm.

In 900ml of distilled water.

PROCEDURE

1) Mix the content in distilled water.
2) Autoclave the medium at 115^0c for 20min.
3) Cool the medium to 50^0c and add 100ml of horse serum and 10mg% chloramphenicol.
4) Pour 5ml of media into pre-sterilised screw capped glass tubes of 15ml capacity.

5) Lable the tubes.

6) Stored at 4^0c till use.

Culture method

Culture is the gold standard for the diagnosis of T.vaginalis. The vaginal discharge specimen is inoculated in the Diamond's medium, for optimal growth the medium is filled in long glass tube so as to provide anaerobic condition at the bottom. The inoculum is placed at the bottom of the tube and incubated at 37^0c, and observed for the growth under microscope from 2^{nd} day onwards .Tubes are incubated till 7days before declaring it negative.

Observations: Turbidity in the culture media suggests growth. A wet mount is then prepared from a drop of media fluid and observed under light microscope for motile T.vaginalis.

STATISTICAL ANALYSIS

The data collected was tabulated in Microsoft Excel Worksheet and computer-based analysis was performed using the SPSS 13.0 software (SPSS, Chicago, IL, USA). The categorical variables were summarized as proportions and percentages. The continuous variables were summarized as mean and standard deviation. For comparison of proportions, Chi-square test was used. In cases where any one of cell value was less than five, Fisher's exact test was used.

OBSERVATIONS AND RESULTS

The present study was conducted in the Institute of Venereology, Madras Medical College, Chennai, to assess the prevalence of Trichomoniasis in symptomatic and asymptomatic female patients attending STD OPD using wet mount and culture. The study group was divided into 2 main groups:

a) Symptomatic group: Consisting of 250 patients.

b) Asymptomatic group: Consisting of 250 patients.

Patients who presented with complaints of vaginal discharge, dysuria, dyspareunia, pruritus, lower abdominal pain and other genitourinary symptoms were taken as symptomatic group, and patients attending STD OPD for routine checkup & for screening were taken as asymptomatic group. [History could not be elicited in one of the positive patient of asymptomatic group who was referred from institute of mental health for screening.]

The data collected is analyzed using Chi square test and the statistical significance was considered if p value is <0.05.

DEMOGRAPHIC PARAMETERS OF STUDY POPULATION

1. Age group

The age distribution of study population are shown in table 2. The mean age group of patients in symptomatic group is 33.85±9.65 and in asymptomatic group the mean age is 34.25±9.36.

Table-2. Age distribution of study population.

Age Group (In years)	Symptomatic Group (N=250)	Asymptomatic Group (N=250)
≤25	48 [19.2%]	51 [20.4%]
26-35	99 [39.6%]	92 [36.8%]
>35	103 [41.19%]	107[42.8%]
Total	250 [100%]	250[100%]
Mean ±SD	33.85±9.65	34.25±9.36
Range	18-55	18-56

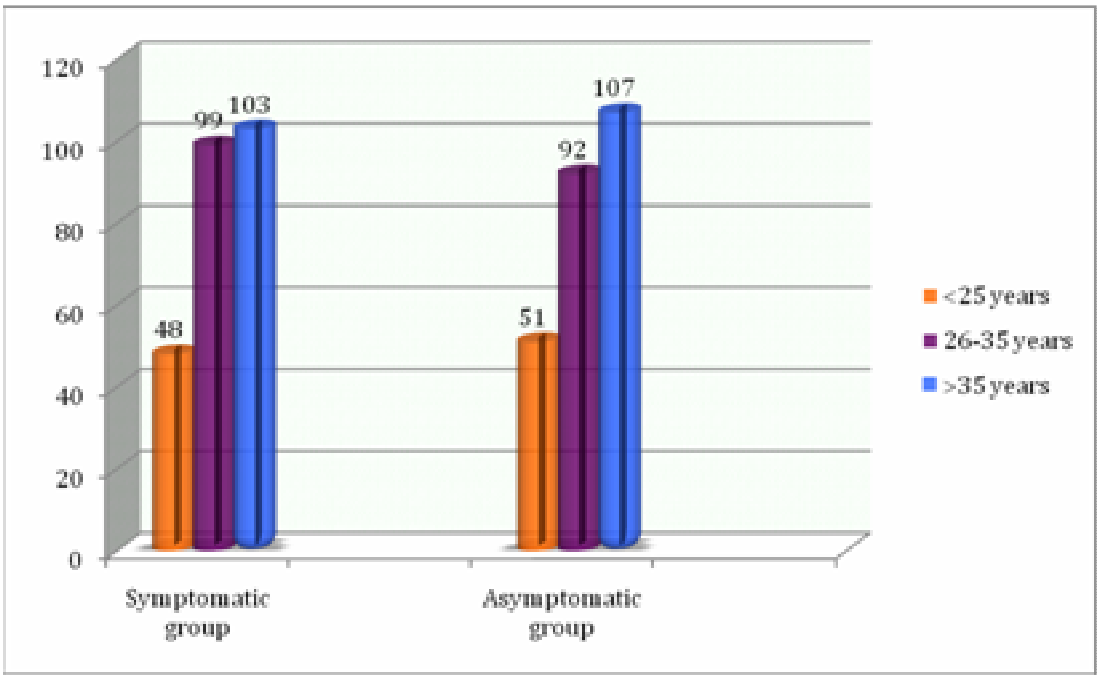

Fig 2: Age Distribution of Study Group.

2. AREA OF RESIDENCE

Most of the patients in our study group were from urban areas, which constituted 72.2%, and about 27.8% are from rural areas. Figure 3 shows the area of distribution of residence in our study group.

Table 3: Area of Residence of Study Group.

Residence	Symptomatic Group	Asymptomatic Group	Total
Urban	185(74%)	176(70%)	361 (72.2%)
Rural	65(26%)	74(30%)	139 (27.8%)
Total	250(100%)	250(100%)	500

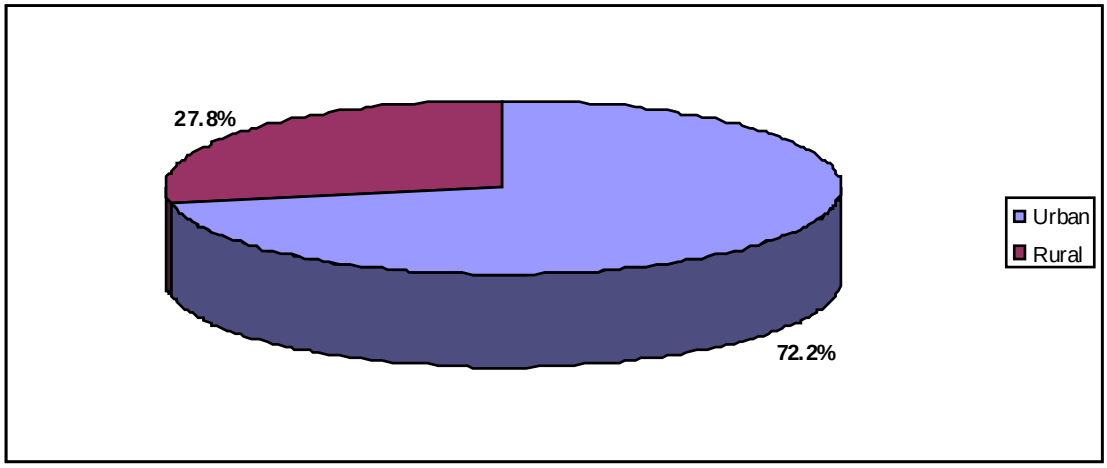

Fig 3: Area of Residence of Study Group.

3. SOCIOECONOMIC STATUS

Our study group was stratified into various socioeconomic classes as per Kuppuswamy's socioeconomic status scale. The SE status of our study group is shown in table 4. The majority of patients in symptomatic group 121 (48.40%) belonged to upper lower class (Class-IV) and about 63 (25.20%) patients were in lower class (Class-V), 56 (22.40%) patients were in lower middle class (Class-III). In asymptomatic group, 148(59.19%) women belonged to lower class (Class-V). The figure 4 and 5 shows Socioeconomic status of symptomatic and asymptomatic group respectively.

Table 4: Socioeconomic Status of the Study Group.

SE status	Symptomatic Group (N=250)	Asymptomatic Group (N=250)
Upper middle	10 [4.0 %]	0 [9.2%]
Lower middle	56 [22.40 %]	23[42.8%]
Upper lower	121 [48.40%]	78[31.2%]
Lower	63 [25.20%]	148 [59.19%]

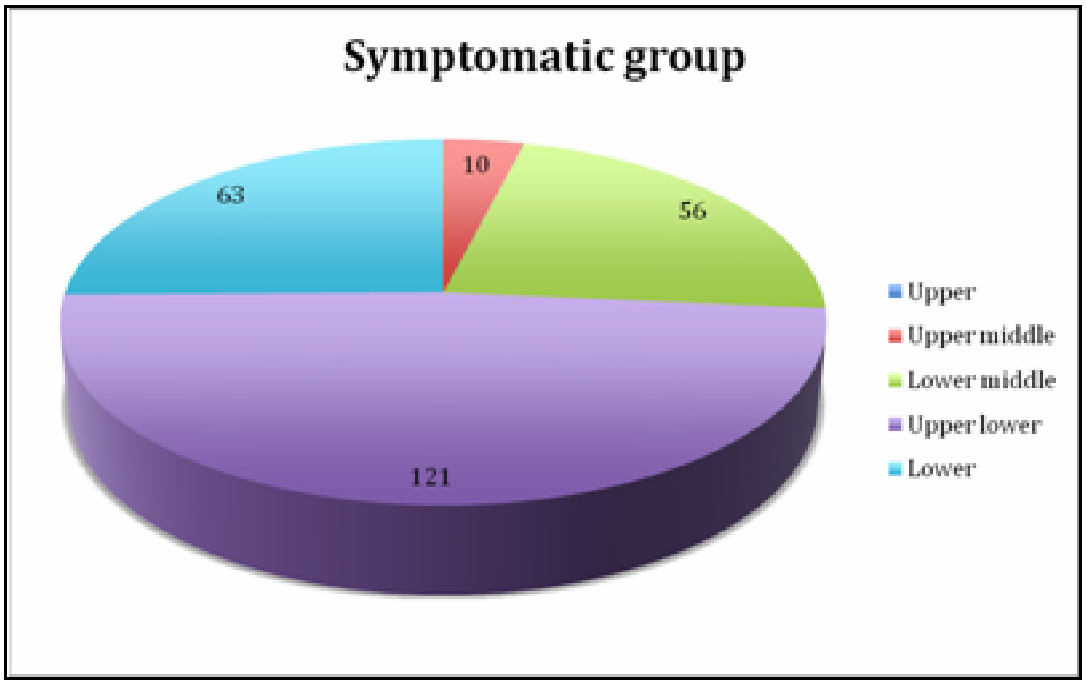

Fig 4: Socioeconomic Status of Symptomatic Group.

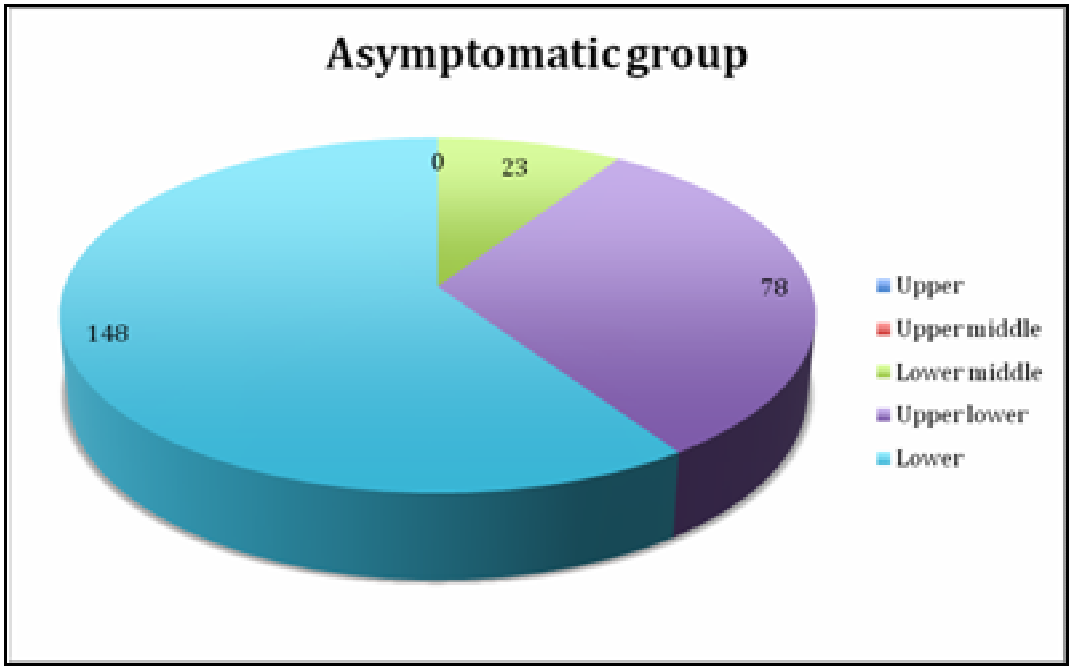

Fig 5: Socioeconomic Status of Asymptomatic Group.

4. EDUCATION STATUS

The education status of the study group is shown in table 5. About 128 (51.2%) women in symptomatic group and 143 (57.19%) women in asymptomatic group had educational status upto 6^{th} to 12^{th} standard.

Table-5. Education status of the study Group.

Education status	Symptomatic Group (N=250)	Asymptomatic Group (N=250)
Illiterate	22 [8.79]	41 [16.40]
Primary	100 [40.0 %]	66 [26.40%]
6th-12 th	128 [51.2 %]	143[57.19%]

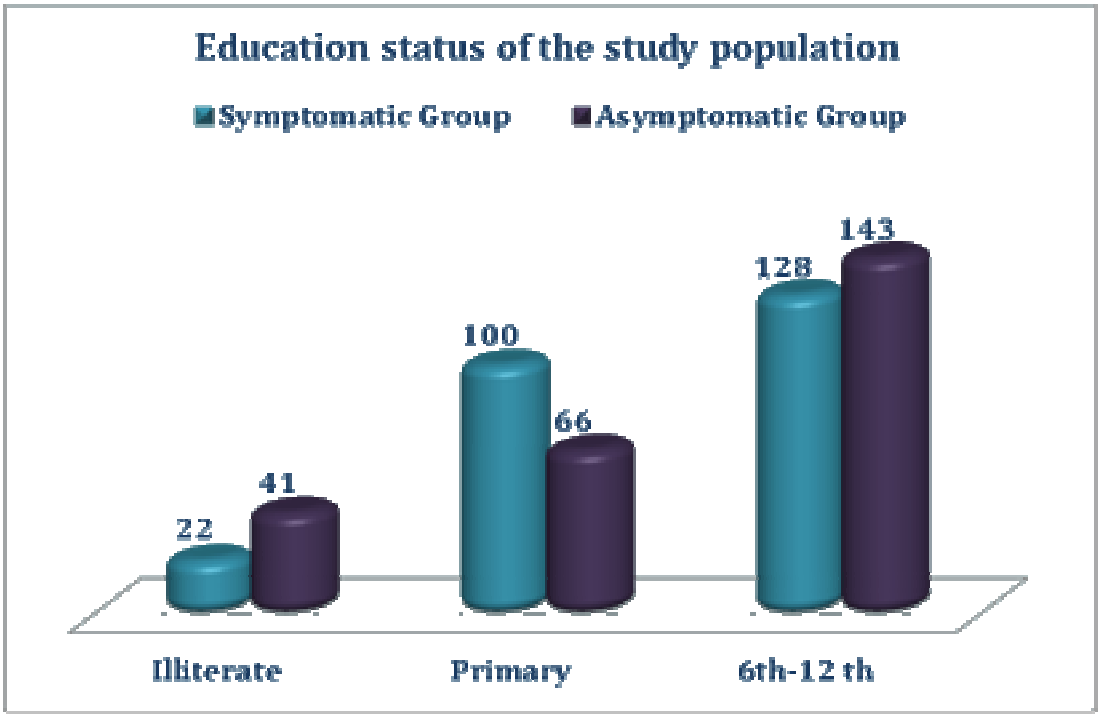

Fig 6. Education status of the Study Group.

5. MARITAL STATUS

Majority of women in our study group are married (92% in symptomatic group and 96.39% in asymptomatic group) and living with their husbands. About 20% women in symptomatic group and 2.4%women in asymptomatic group were living single.

Table-6: Marital Status of the Study Group.

Marital status	Symptomatic Group (N=250)	Asymptomatic Group (N=250)
Married	230 (92%)	242 (96.39)
Single	20 (8%)	6 (2.4%)
Widow	0	1(0.4%)

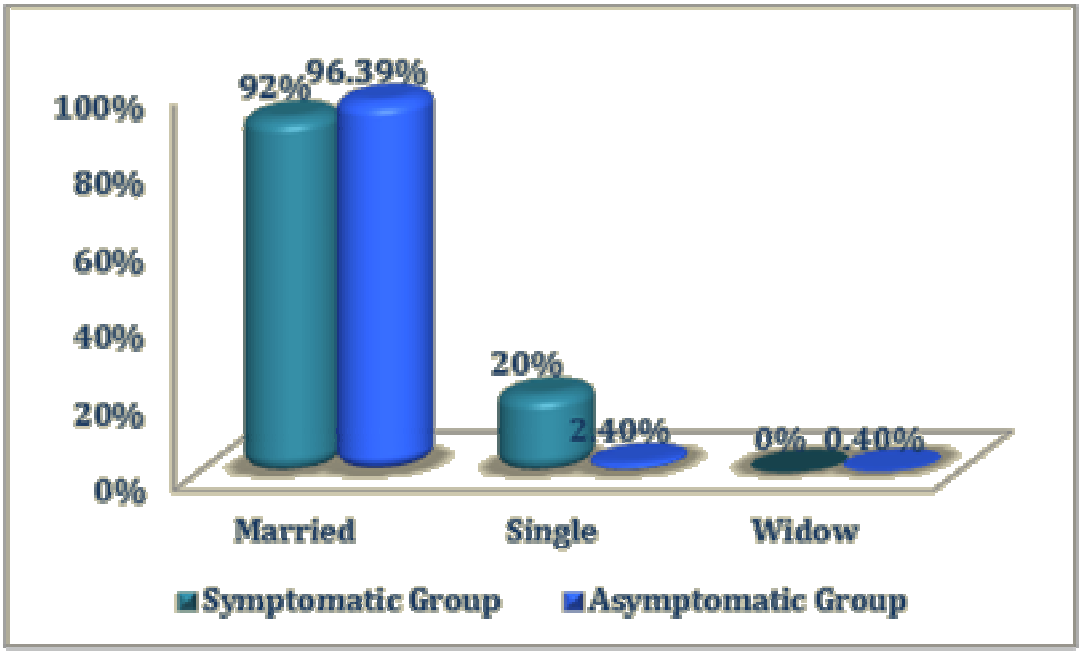

Figure7. Marital status of Study Group.

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6. PRE/EXTRAMARITAL CONTACT

A history of premarital or extramarital contact was present in 27 (10.80%) women in symptomatic group and 30 (12%) women in asymptomatic group.

Table-7. Pre/Extramarital contact in Study Group.

Pre/ Extramarital contact	Symptomatic Group (N=250)	Asymptomatic Group (N=250)
Present	27 [10.80 %]	30[12%]
Absent	223 [89.2%]	220 [88%]

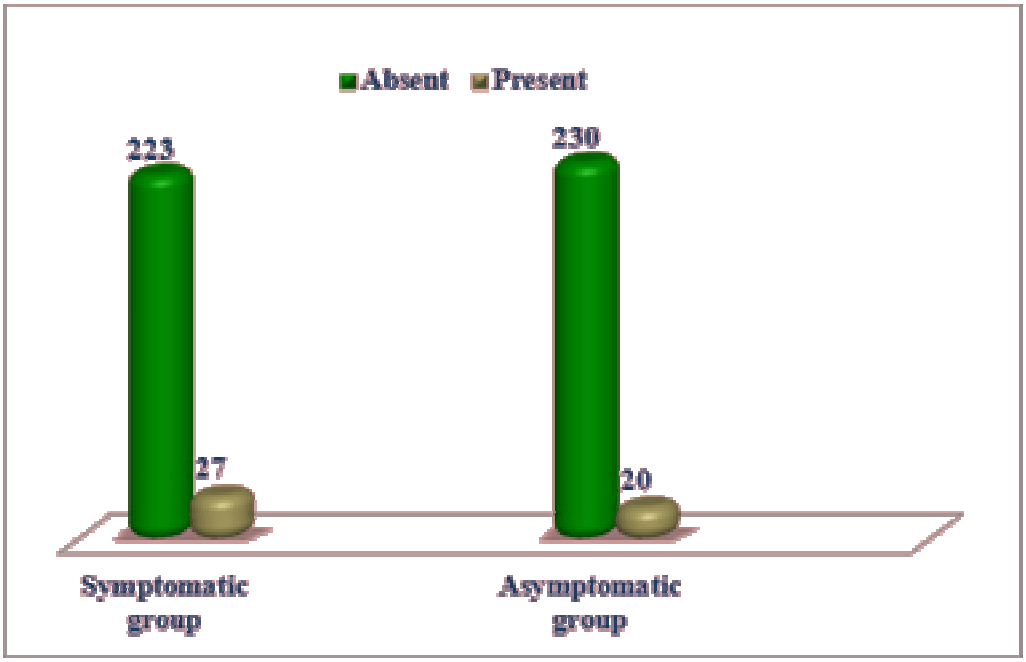

Figure-8. Shows Pre/Extramarital contact in Study Group.

7. PROMISCUITY OF THE PARTNER

The Partners of 13 women (5.2%) in symptomatic group and two women (0.8%) in asymptomatic group had history of extramarital contact. The conserned women however had no extramarital contact.

Table-8. Promiscuity of the partner in Study Group.

Partners with extramarital contact	Symptomatic Group (N=250)	Asymptomatic Group (N=250)
Absent	166 [66.40%]	228 [91.20%]
Present	13 [5.2 %]	2[0.8%]
Unknown	50 [20 %]	16[6.4%]
Not applicable (For single women)	21 [8.4%]	4 [1.6%]

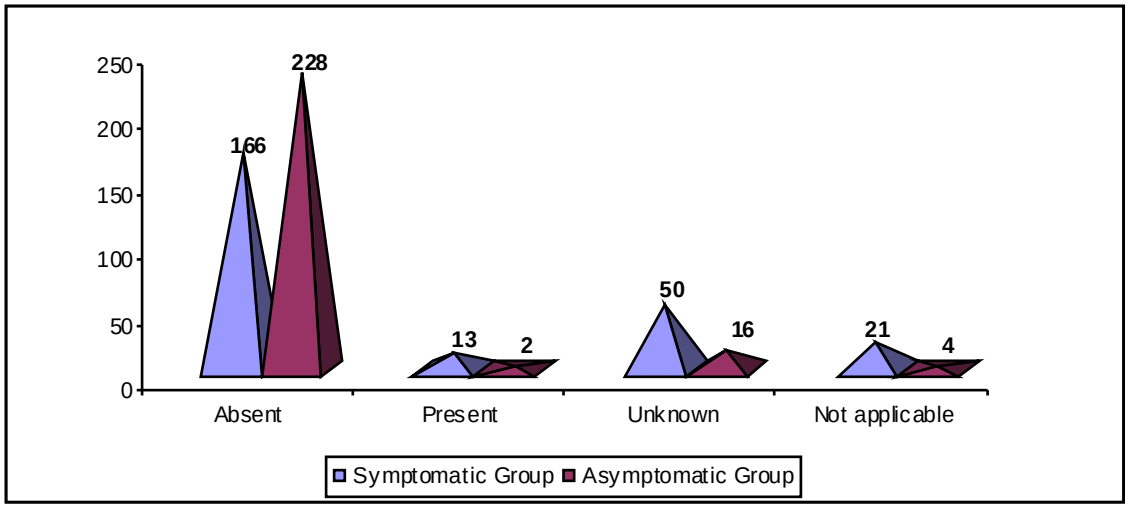

Figure-9. Shows Extramarital Contact of the Partners in Study Group.

STUDY PARAMETERS OF TRICHOMONAS POSITIVE PATIENT

PREVALENCE OF TRICHOMONIASIS IN STUDY GROUP

In our study a total of 8% of women had Trichomoniasis out of 500 women examined. 31 out of the 250 women (12.4%) in symptomatic group had infection with T.vaginalis by culture and /or wet mount and 9 out of 250 (3.6%) asymptomatic women had Trichomoniasis by culture and/or wet mount.

Table-9: Prevalence of Trichomoniasis in Study Group

No. of patients	Symptomatic group	Asymptomatic group
Trichomonas positive cases	31 (12.4%)	9 (3.6%)
Trichomonas negative cases	219 (87.6%)	241(96.4)
Total	250	250

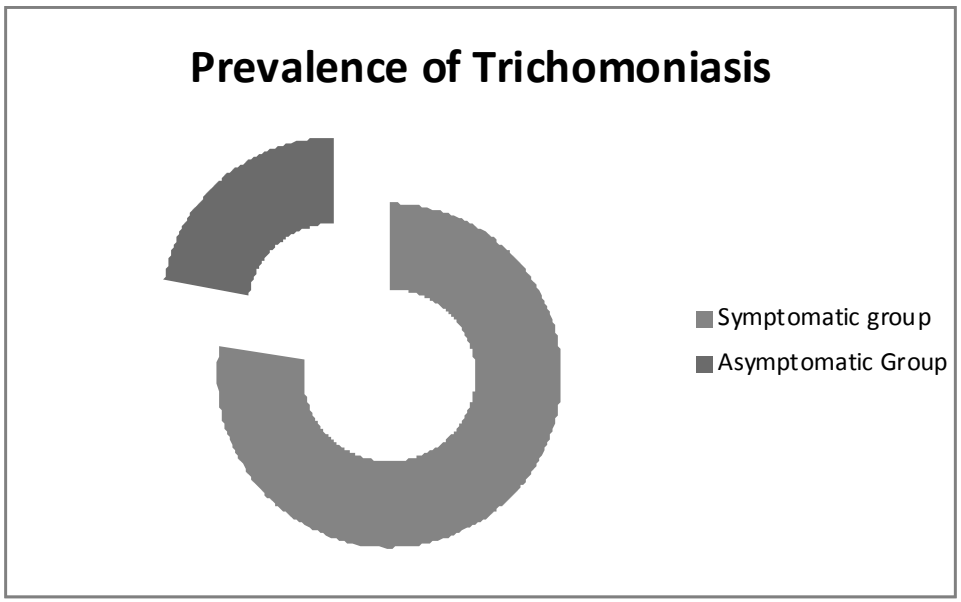

Fig 10: Prevalence of Trichomonas positive patients in Study Group.

DEMOGRAPHIC AND SOCIOECONOMIC FACTORS

1. Age

The table 10 shows age distribution of Trichomonas positive patients in both symptomatic and asymptomatic groups. The mean age group of Trichomonas positive patients in symptomatic group is 32±7 years whereas in asymptomatic group mean age is 34±8 years.

Table-10. Shows Age Distribution in Trichomoniasis patients.

Age Group (In years)	Symptomatic Group	Asymptomatic Group
	Trichomonas Positive	Trichomonas Positive
≤25	4 [12.9%]	1[11.1%]
26-35	19[61.3%]	7[77.8%]
>35	8 [25.8%]	1[11.1%]
Total	31[100%]	9[100%]
Mean ±SD	32±7	34±8
Range	18-49	19-50

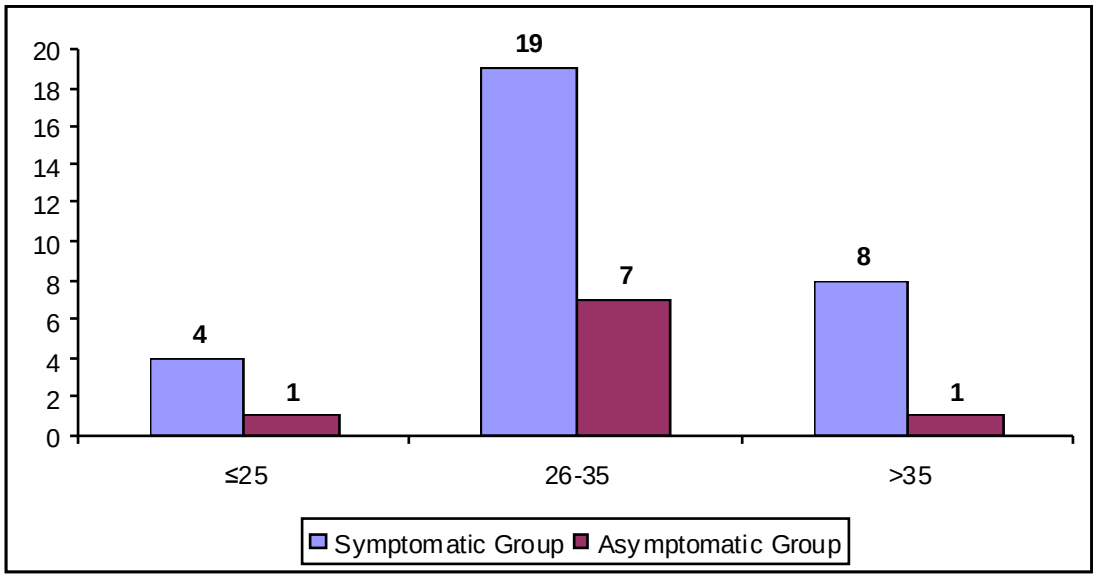

Figure11. Age Distribution among Trichomonas Positive Patient.

2. Area of residence

Most of the positive patients were from urban areas which constituted 67% and the rural inhabitants constituted about 33%.

Table-11: Area of residence of Trichomonas Positive Patients

Area of Residence	Symptomatic Group	Asymptomatic Group	Total
	Trichomonas Positive	Trichomonas Positive	
Urban	21 (67.7%)	6 (67%)	27 (67%)
Rural	10 (32.2%)	3 (33.3%)	13 (33.3)
Total	31 (100%)	9 (100%)	40 (100%)

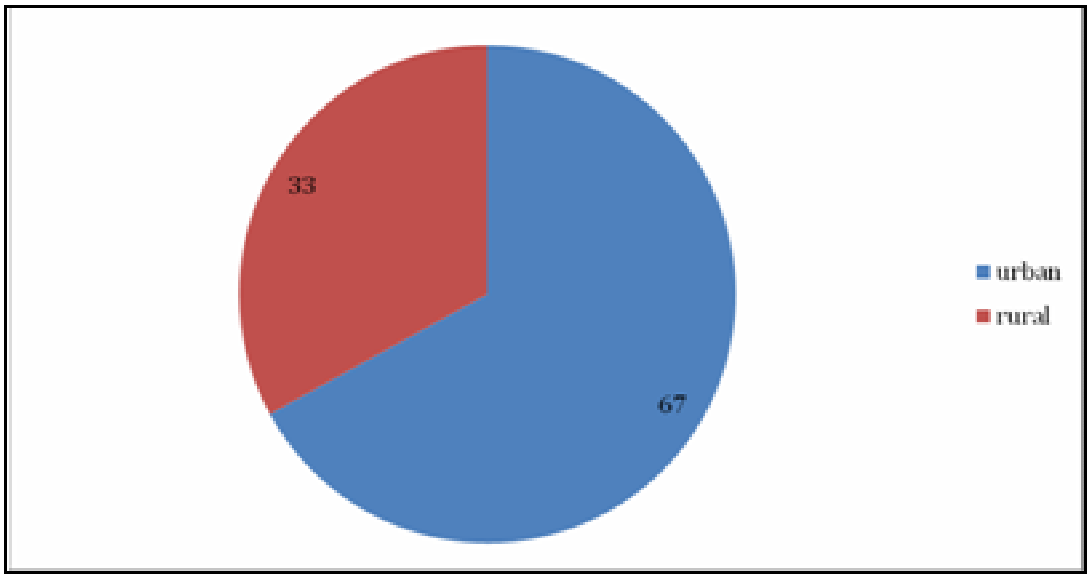

Fig12. Area of residence of Trichomonas positive cases in study group.

3. Socioeconomic status:

Our study group was stratified into various socioeconomic classes as per Kuppuswamy's socioeconomic status scale shown in table 12. The majority of Trichomonas positive patients 17(54.8%) in symptomatic group belonged to the lower socioeconomic class (class V). About 10 (27.3%) patients were in upper lower class (class IV), 3 (9.7%) patients in lower middle class (class III) and one (3.2%) patient in upper middle class (class II). In asymptomatic group majority of positive patients 6 (75%) belonged to upper lower class (class IV) followed by 2 patients (25%) in lower class (class V).The p value is 0.001 when compared to Trichomonas negative patients, which is statistically significant.

Table-12. Socioeconomic Status of Trichomoniasis Patients in Study Group.

SE status	Patients			
	Symptomatic Group		Asymptomatic group	
	Trichomonas		Trichomonas	
	Positive		Positive	
	N	%	N	%
Upper middle	1	3.2	0	0
Lower middle	3	9.7	0	.0
Upper lower	10	32.3	6	75.0
Lower	17	54.8	2	25.0
Total	31	100.0	8	100.0

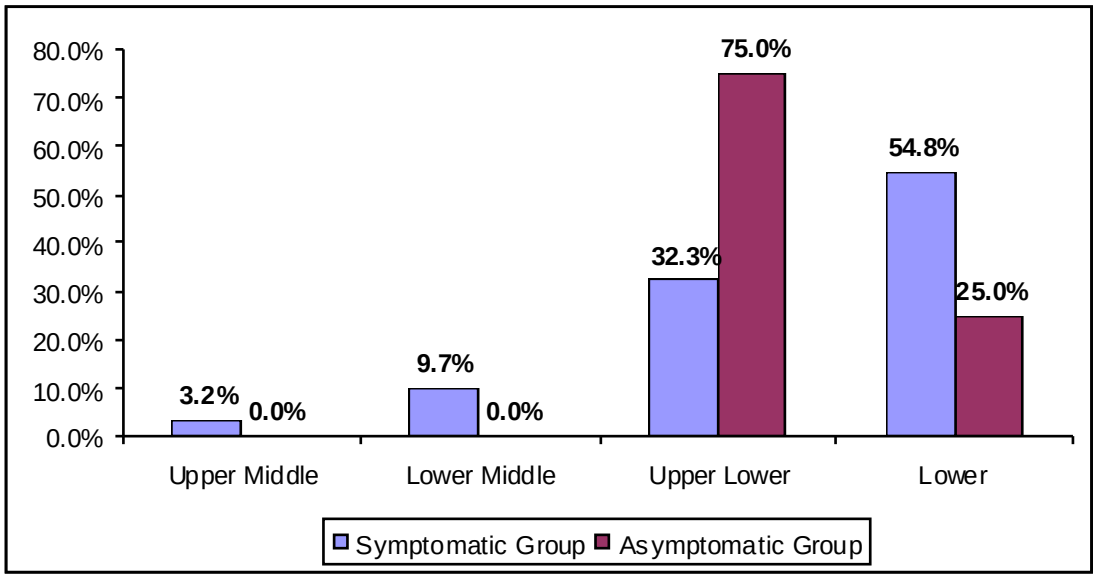

Figure-13. Socioeconomic Status of Trichomonas positive Patients.

4. Education status

The table 13, shows the Education status of Trichomonas positive patients in the study group. Most of the women in symptomatic group had education level upto 6 -12th standard, whereas in asymptomatic group majority of patients with Trichomoniasis (87.5%) were in primary education status level.

Table-13. Education Status of Trichomonas Positive Patients in Study Group.

Educational status	Patients			
	Symptomatic Group		Asymptomatic Group	
	Trichomonasis		Trichomonasis	
	Positive		Positive	
	N	%	N	%
Illiterate	4	12.9	1	12.5
Primary	12	38.7	7	87.5
6th- 12th	14	45.2	0	.0
Professional	1	3.2	0	.0

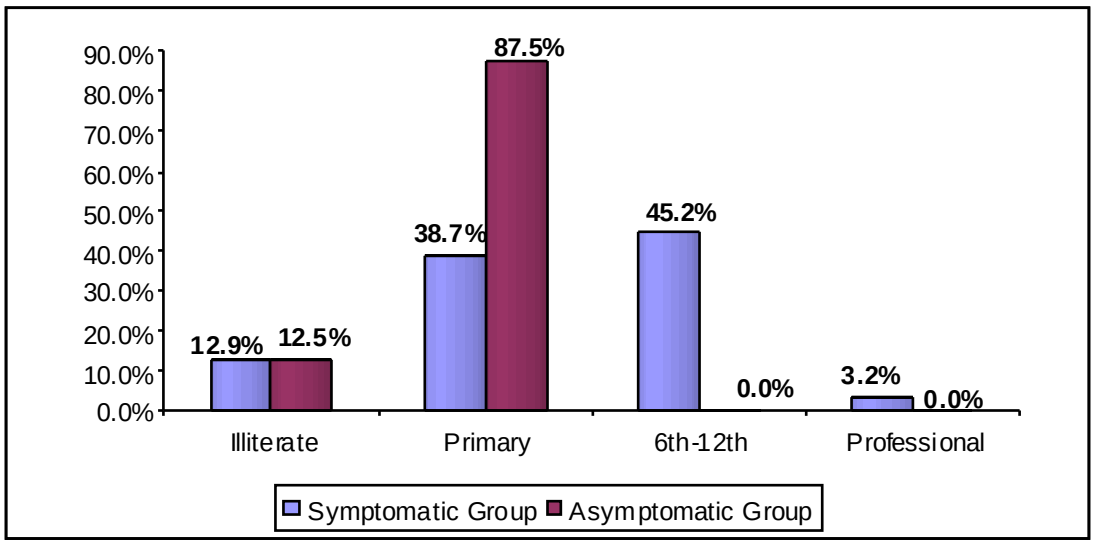

Figure 14. Education Status of Trichomonas positive Patients in Study Group.

5. Marital status

Majority of women (74.2%) in our study were married and living with their husbands. About 25% women were living single in the Trichomonas positive patients of symptomatic group and 25% women were single and 12.5% women were widowed in asymptomatic positive group.The p value is <0.05 when compared to Trichomoniasis negative single(5.5%) patients in the study.

Table 14. Marital status of Trichomoniasis patients in study group

Marital status	Patients			
	Symptomatic Group		Asymptomatic Group	
	Trichomoniasis		Trichomoniasis	
	Positive		Positive	
	N	%	N	%
Married	23	74.2%	5	62.5%
Single	8	25.8%	2	25%
Widow	0	.0%	1	12.5%
Total	31	100.0	8	100.0

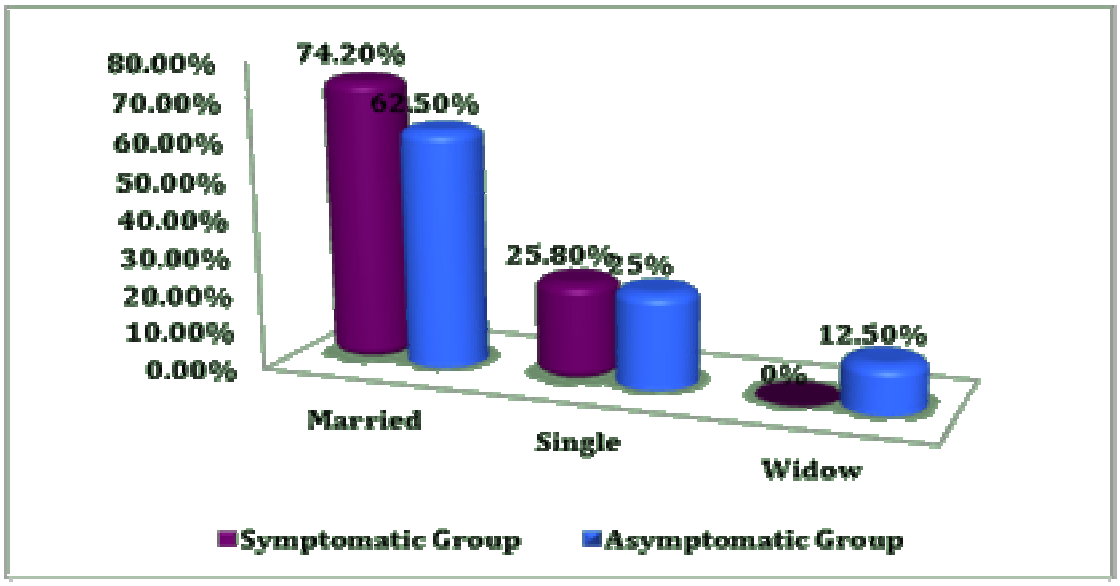

Figure 15. Marital Status of Trichomoniasis Patients in Study Group.

6. Pre/Extramarital contact.

The history of Premarital or Extramarital contact was present in 14 (45.2%) of positive patients when compared to negative patients13(5.9%) in symptomatic group. About 10 Trichomoniasis positive women in our study group indulged in prostitution as compared to 4 women in Trichomoniasis negative group. The p value is 0.001 which is statistically significant.

Table-15. Pre/Extramarital contact in Trichomoniasis Patients of study group.

Pre/extramarital contact	Patients			
	Symptomatic Group		Asymptomatic Group	
	Trichomonasis		Trichomonasis	
	Positive		Positive	
	N	%	N	%
Present	14	45.2	4	50.0
Absent	17	54.8	4	50.0
Total	31	100.0	8	100.0

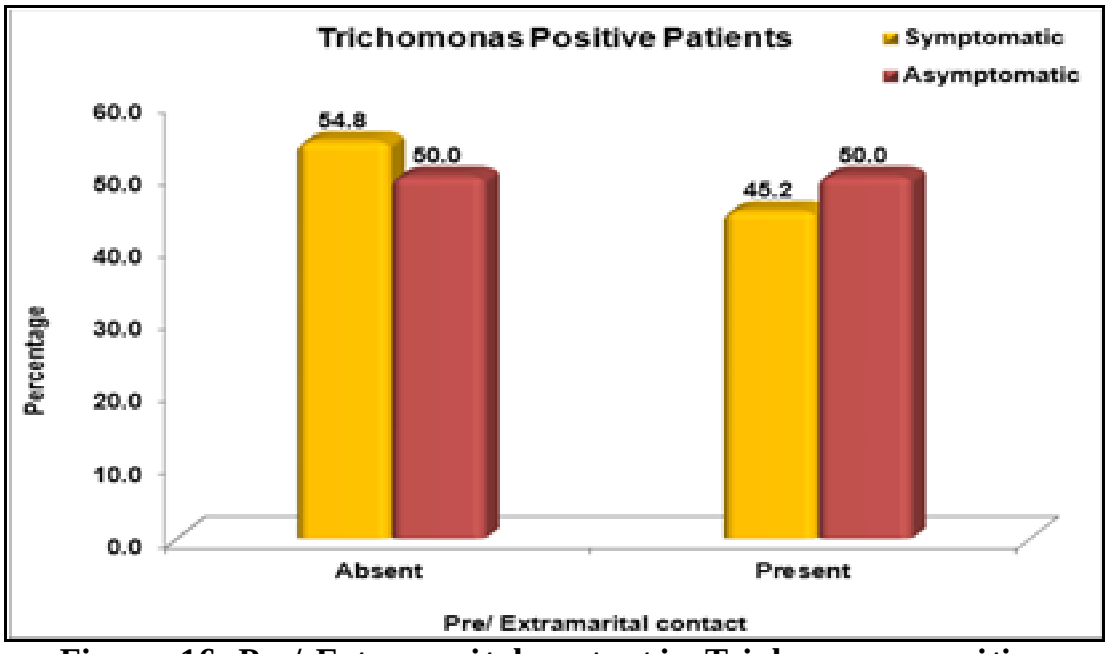

Figure-16. Pre/ Extramarital contact in Trichomonas positive patients.

7. Promiscuity of the Partner.

The husbands of seven (22.6%) women with Trichomoniasis in symptomatic group had extramarital contact. This was significantly higher as compared to those without Trichomoniasis (2.7%) in the study group. The p value is 0.001 which is statistically significant.

Table-16. Promiscuity of Partner in Trichomonas Positive Patients.

Promiscuity of the partner	Patients			
	Symptomatic Group		Asymptomatic Group	
	Trichomonasis		Trichomonasis	
	Positive		Positive	
	N	%	N	%
Present	7	22.6	0	.0
Absent	9	29.0	3	37.5
Unknown	8	25.8	3	37.5
Not applicable (for single women)	7	22.6	2	25.0
Total	31	100.0	8	100.0

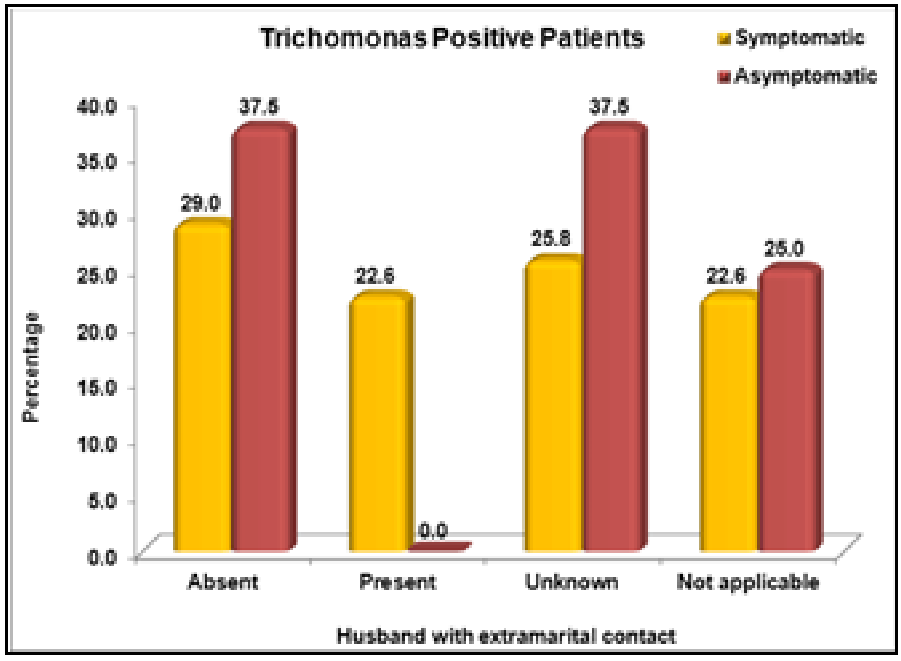

Figure 17: Promiscuity of the Partner in the Trichomonas Patients.

8. Contraception

Majority of the married women in our study were Tubectomised in both the groups i,e 14(45.2%) and 9(100%)of positive cases in symptomatic and asymptomatic women respectively . Only 7(22.6%) women in positive cases used barrier methods as contraceptive.when compared to Trichomonas negative patients(15.6%). The p value is >0.05 (Nonsignificant).

Table-17. Method of contraception in Trichomoniasis Positive Study Group.

Contraception	Patients			
	Symptomatic Group		Asymptomatic Group	
	Trichomonasis		Trichomonasis	
	Positive		Positive	
	N	%	N	%
Sterilization	14	45.2%	8	100.0%
Barrier	7	22.6%	0	.0%
IUCD	2	6.5%	0	.0%
Not Followed	8	25.8%	0	.0%
Total	31	100.0	8	100.0

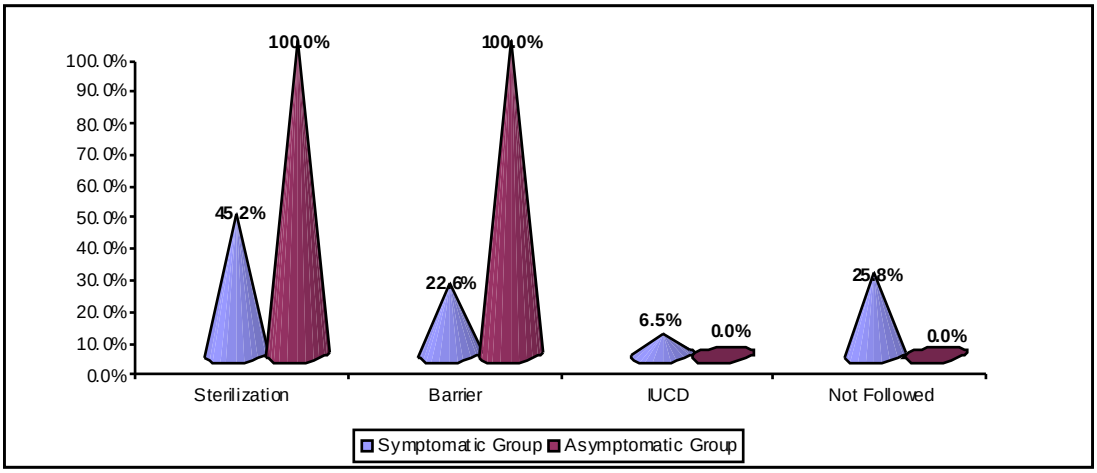

Figure-18. Contraception method in Trichomonas Positive Patients.

9. Obstretic history

In our study 12.9% of Trichomonas positive women had history of abortion when compared to only 0.5% in Trichomonas negative patients.The p value is <0.05 which is statistically significant.

Table-18. Obstretic History of Study Groups.

Obstretic history	Patients			
	Symptomatic Group		Asymptomatic Group	
	Trichomonasis		Trichomonasis	
	Positive		Positive	
	N	%	N	%
Normal delivery	15	48.4%	4	50.0%
LSCS	3	9.7%	4	50.0%
Abortion	4	12.9%	0	0%
Nullipara	9	29.0%	0	0%
Total	31	100.0	8	100.0

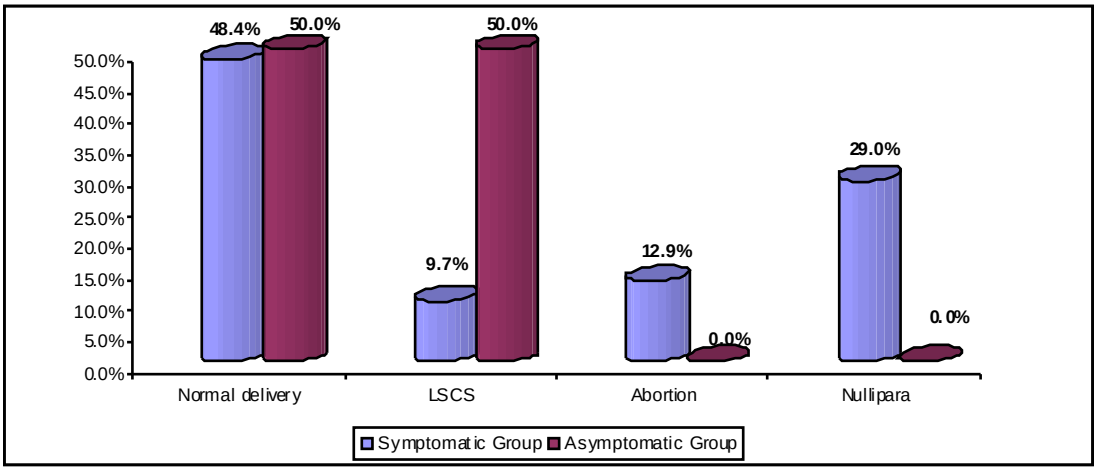

Figure-19. Obstretic History of Trichomonas Positive Patients.

10. Symptoms in Partner.

In our study 6.5% of partners of Trichomoniasis patients in symptomatic group had urethritis, pruritus and dysuria. In partners of Trichomonas negative women 5.5% had urethritis, 1.5% had balanitis and none had dysuria. The p value is <0.5 which is statistically significant.

Table-19. Symptoms in Partners of the Study Groups.

Symptoms in partner	Patients			
	Symptomatic Group		Asymptomatic Group	
	Trichomoniasis		Trichomoniasis	
	Positive		Positive	
	N	%	N	%
Unknown	21	67.7%	5	62.5%
Urethritis	2	6.5%	1	12.5%
Dysuria	2	6.5%	0	0%
Balanitis	3	9.7%	0	0%
Pruritus	2	6.5%	0	0%
Others	0	0%	1	12.5%
No Symptoms (Nil)	1	3.2%	1	12.5%
Total	31	100.0	8	100.0

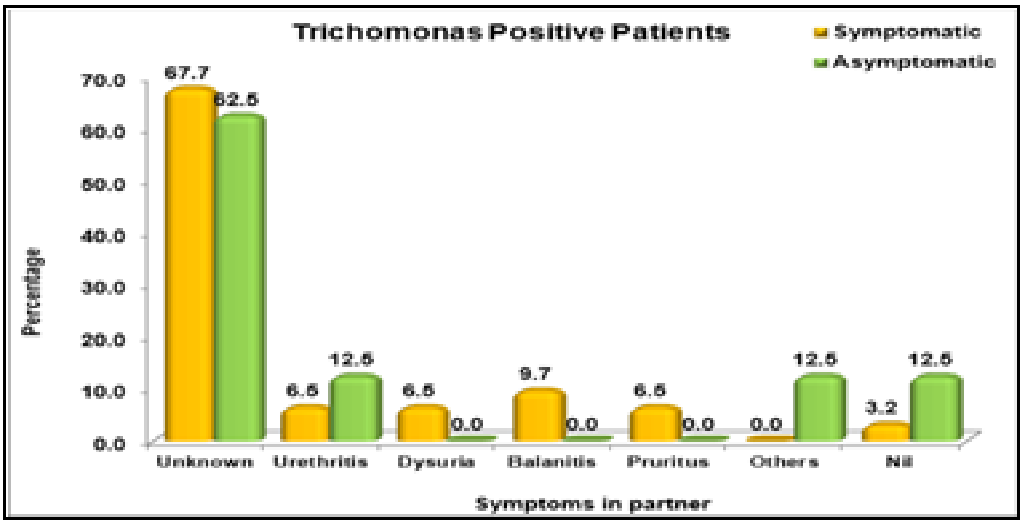

Figure-20. Symptoms in Partners of Trichomonas positive women.

11. Substance Abuse.

Only two Trichomoniasis positive cases in asymptomatic group had history of alcohol abuse.

Table-20. Shows Substance Abuse in Study Groups.

Substance abuse	Cases			
	Symptomatic		Asymptomatic	
	Trichomonasis		Trichomonasis	
	Positive		Positive	
	N	%	N	%
Yes	0	.0	2	25.0
No	31	100.0	6	75.0
Total	31	100.0	8	100.0

12. Past history of PID/ Infertility/ Venereal disease.

About 6 (19.9%) women with Trichomoniasis in symptomatic group had previous history suggestive of venereal disease and 3 (9.67%) women had history suggestive of PID. Where as 2 women with Trichomoniasis in asymptomatic group had history of venereal disease (22.2%).

Table-21. Past History of PID/Infertility/Venereal disease.

Past history of	Symptomatic Group	Asymptomatic Group
	Trichomonas positive	Trichomonas positive
PID	3(9.67%)	0
Infertility	0	0
Venereal disease	6(19.35%)	2(22.2%)
None	22(70.96)	6(77.7%)
Total	31(100%)	9

B). DISEASE CHARACTERISTICS IN TRICHOMONAS POSITIVE PATIENT

1. Age of onset of Vaginal Discharge.

The mean age of onset of discharge in Trichomoniasis patients in both symptomatic and asymptomatic group is 34.

Table 22. Age of onset of Discharge is Study Group.

Trichomonasis	Age of Onset (years)	Symptomatic	Symptomatic	Total
Positive	Mean	30	-	30
	Standard Deviation	7	-	7
	Median	30	-	30
	Minimum	16	-	16
	Maximum	40	-	40
Negative	Mean	34	-	34
	Standard Deviation	10	-	10
	Median	33	-	33
	Minimum	15	-	15
	Maximum	60	-	60

2.Duration of Vaginal Discharge.

Majority of women (77.4%) with Trichomoniasis in symptomatic group had history of vaginal discharge for less than one year.

Table 23. Shows Duration of Vaginal Discharge is Study Group.

Duration of vaginal discharge	Patients			
	Symptomatic Group		Asymptomatic Group	
	Trichomoniasis		Trichomoniasis	
	Positive		Positive	
	N	%	N	%
Less than one year	24	77.4	0	.0
More than one year	7	22.6	0	100.0
Total	31	100.0	9	100.0

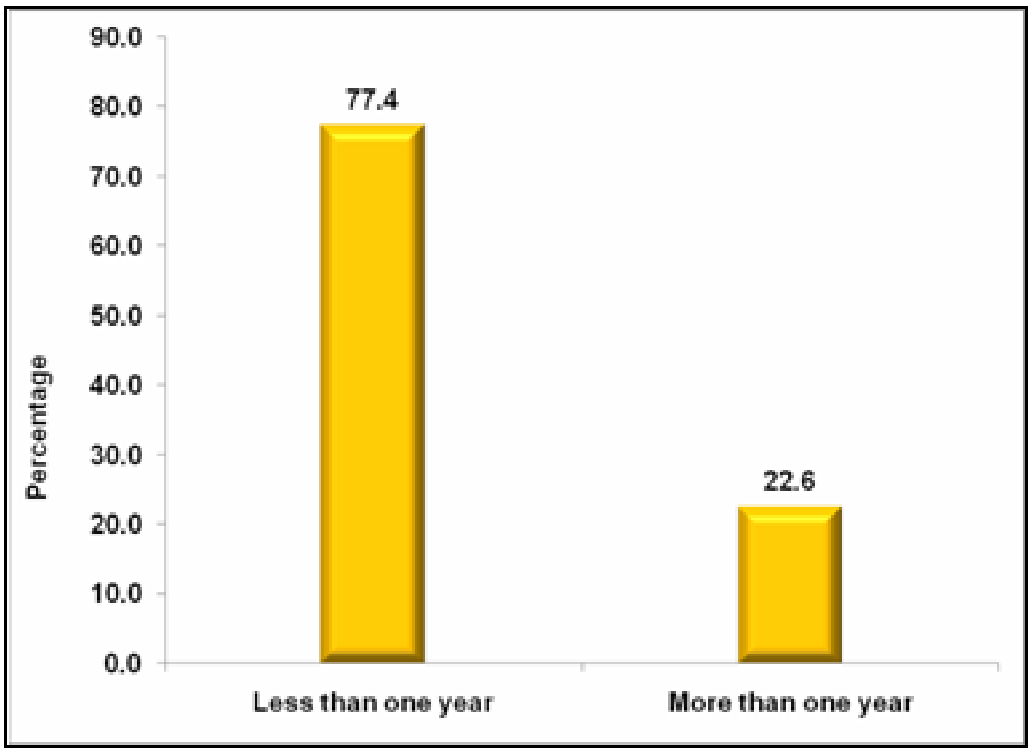

Figure-21. Duration of Vaginal discharge in Trichomonas positive patients in symptomatic group.

3. Relation to menstruation.

In our sttudy 64.5%women gave history of increased symptoms during menstruation when compared to negative cases that had only 20% of similar history. The p value is <0.05 which is statistically significant.

Table-24. Relation of T.vaginalis infection to Menstruation.

Relation to menstruation	Patients											
	Symptomatic Group				Asymptomatic Group				Total			
	Trichomonasis				Trichomonasis				Trichomonasis			
	Negative		Positive		Negative		Positive		Negative		Positive	
	N	%	N	%	N	%	N	%	N	%	N	%
Yes	44	20.1	20	64.5	0	.0	0	.0	44	20.1	20	64.5
No	175	79.9	11	35.5	0	.0	0	.0	175	79.9	11	35.5
Total	219	100.0	31	100.0	0	.0	0	.0	219	100.0	31	100.0

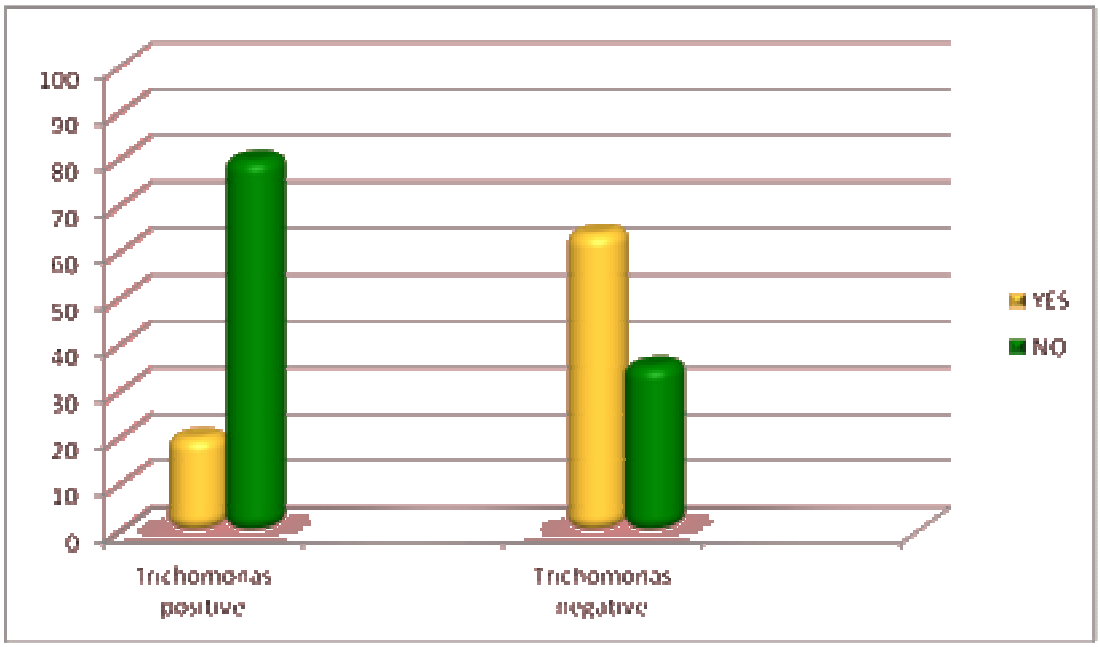

Figure-22. Relation between Mestruation and Vaginal discharge in Trichomonas Positive Patients.

4. Other symptoms.

Vaginal itching (29%) and lower abdominal pain (9.7%) was the most common symptoms seen in Trichomonas positive women followed by dysuria which is seen in 3.2% women.

Table-25: Other Symptoms in Trichomoniasis Patients.

	Others symptoms	Patients			
		Symptomatic group		Asymptomatic group	
		Trichomonasis		Trichomonasis	
		Positive		Positive	
		N	%	N	%
1	Vulval itching	9	29.0	0	.0
2	Dysuria	0	.0	0	.0
3	Lower abdominal pain	3	9.7	0	.0
4	Dyspareunia	0	.0	0	.0
5	Post coital bleeding	0	.0	0	.0
7	Ulcer	0	.0	0	.0
8	Growth/swelling	1	3.2	0	.0
1,2	Vulval itching, Dysuria	1	3.2	0	.0
1,3	Vulval itching, LAP	7	22.6	0	.0
1,5	Vulval itching, Post coital bleeding	0	.0	0	.0
1,7	Vulval itching, Ulcer	0	.0	0	.0
2,3	Dysuria, Lower abdominal pain	2	6.5	0	.0

	Others symptoms	Patients			
		Symptomatic group		Asymptomatic group	
		Trichomonasis		Trichomonasis	
		Positive		Positive	
		N	%	N	%
2,5	Dysuria, Post coital bleeding	0	.0	0	.0
1,3,5	Vulval itching, Lower abdominal pain, Post coital bleeding,	0	.0	0	.0
6	None	8	25.8	9	100.0
	Total	**31**	**100.0**	**9**	**100.0**

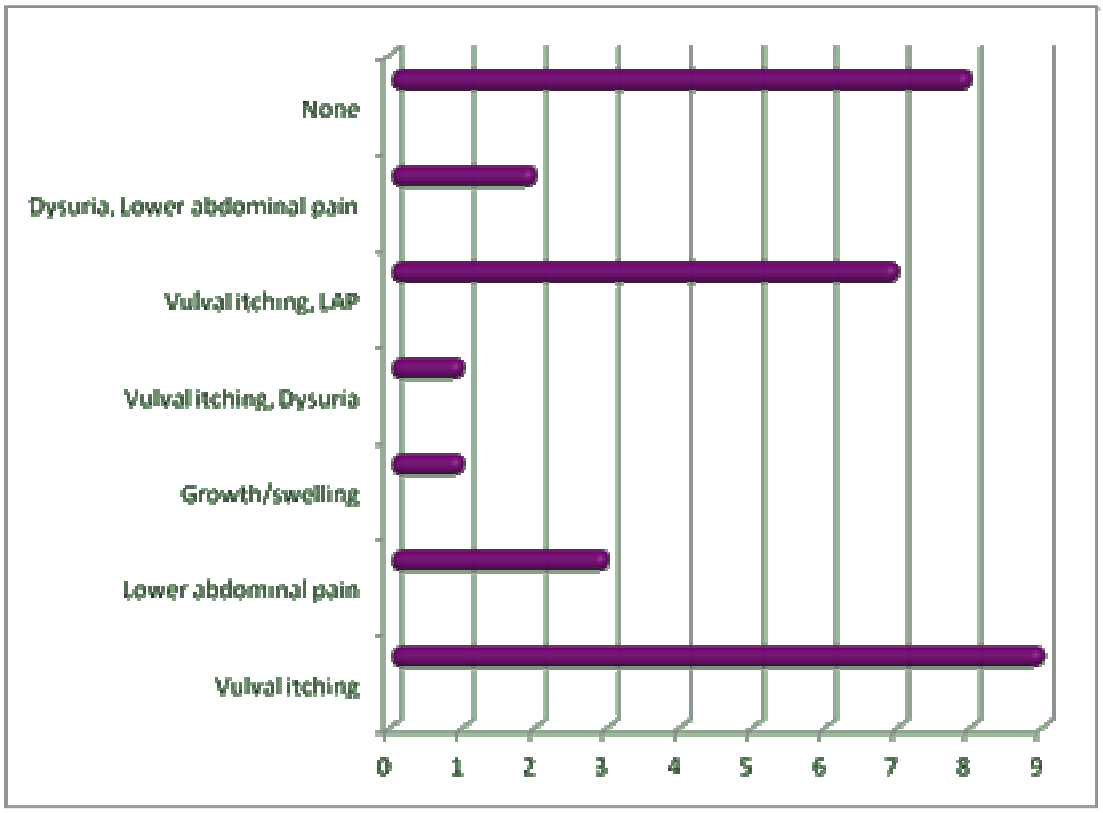

Figure-23. Other symptoms seen in Trichomonas Positive women in Symptomatic group.

5. Vulvovaginal Examination

About 12.9% women of Trichomoniasis had erythema of vulva and vagina which is significant when compared to only 2.7% of women in negative patients. About 90.3%women in Trichomonas positive cases in symptomatic group and 100% of women in asymptomatic group had vaginal discharge, which is not significant when compared to 89% in negative patients ($p > 0.05$).

Table 26. Vulvovaginal examination in Trichomoniasis Patients.

Vulvovaginal Examination		Patients			
		Symptomatic Group		Asymptomatic Group	
		Trichomonasis		Trichomonasis	
		Positive		Positive	
		N	%	N	%
Vulvar examination	Normal	27	87.09%	9	100.0
	Erythema	4	12.9%	0	.0
	Growth	0	.0	0	.0
	Ulcer	0	.0	0	.0
Genital ulcers	Present	1	3.2	0	.0
	Absent	30	96.8	9	100.0
Vaginal discharge	Present	28	90.3	9	100.0
	Absent	3	9.7	0	.0
	Total	31	100.0	9	100.0

6. Vaginal Discharge characteristics in Trichomonas positive patients.

Most of the women (48.4%) with Trichomoniasis in symptomatic group had moderate to profuse whitish discharge (58.1%) and 64.5% women had foul smelling discharge. Where as in asymptomatic Trichomoniasis patients the vaginal discharge was moderate, odourless and mucoid in nature. The Typical frothy discharge was seen only in 58% of women in symptomatic group and in only two (22.2%) patients of asymptomatic patients. Purulent discharge was seen in 38% and 33% of Trichomonas positive women in symptomatic and asymptomatic women respectively.

Table 27. Vaginal Discharge characteristics in Trichomonas Positive Patients.

Vaginal discharge		Patients			
		Symptomatic Group		Asymptomatic Group	
		Trichomonasis		Trichomonasis	
		Positive		Positive	
		N	%	N	%
Discharge amount	Scanty	3	9.7	2	22.2
	Moderate	15	48.4	5	55.6
	Profuse	13	41.9	2	22.2
Discharge odour	Odourless	9	29.0	6	66.7
	Foul smelling	20	64.5	2	22.2
	Fishy	2	6.5	1	11.1

Vaginal discharge		Patients			
		Symptomatic Group		Asymptomatic Group	
		Trichomonasis		Trichomonasis	
		Positive		Positive	
		N	%	N	%
Discharge consistency	Curdy	0	.0	0	.0
	Flocculent	1	3.2	1	11.1
	Thick homogeneous	1	3.2	0	.0
	Frothy	18	58.1	2	22.2
	Watery	5	16.1	2	22.2
	Mucoid	6	19.4	4	44.4
Discharge colour	White	18	58.1	6	66.7
	Greyish	1	3.2	0	.0
	Purulent	12	38.7	3	33.3
	Serosanguinous	0	.0	0	.0
	Total	31	100.0	9	100.0

C. Investigations and Diagnosis.

1. Wet mount

The Wet mount Preparation using normal saline had low sensitivity and high specificity.Wet mount was positive in 67.74% of symptomatic group and 55.5% of asymptomatic group. Even though Wet mount failed to identify 32.25% of infection in symptomatic group and 35% of asymptomatic Trichomoniasis patients respectively. (p value is >0.05 (Not significant), chisquaretest = 0.455, Fisher exact test >0.05).

Table-28. Sensitivity pattern of Wet mount.

Wet mount	Trichomonasis Patients					
	Symptomatic		Asymptomatic		Total	
	N	%	N	%	N	%
Positive	21	80.8	5	19.2	26	100.0
Negative	10	71.4	4	28.6	14	100.0
Total	31	77.5	9	22.5	40	100.0

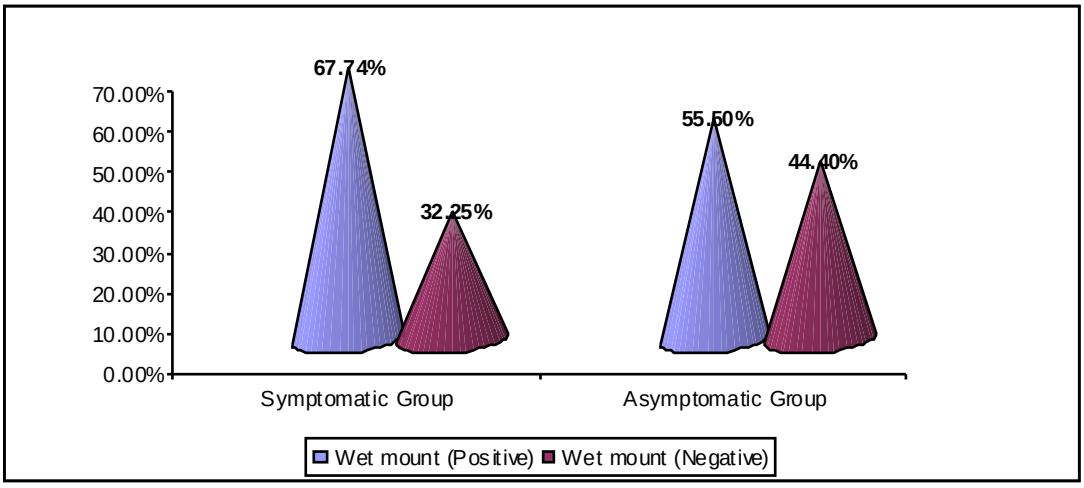

Figure 24. Percentage of Wet mount Positivity in the Study.

2. Culture:

Culture done using Diamond's liquid media had sensitivity and specificity of 100%, PPV (100%), NPV(100%) when observed with in 3 days of inoculation.Culture examined on 7thday had Sensitivity(77.50%), Specificity (100%), PPV(100%) and NPV(98.5%).

Table-29. Culture: Using Diamond's medium

		Trichomonas Positive Patients					
		Symptomatic Group		Asymptomatic Group		Total	
		N	%	N	%	N	%
Culture on 2nd and 3rd day	Present	31	100%	9	23.1	40	100.0
	Absent	0	0	0	.0	0	0
Culture on 5th day	Present	30	96.77%	9	23.1	39	100.0
	Absent	1	3.22%	0	100.0	1	100.0
Culture on 7th day	Present	24	77.41%	9	29.0	31	100.0
	Absent	6	19.35%	0	.0	6	100.0
	Total	31	77.5	9	22.5	40	100.0

3. Wet mount method compared with culture:

Wet mount method had low sensitivity in diagnosing both symptomatic and asymptomatic patients when compared to culture. (p value is < 0.05, Fischer exact test <0.05, chisquare test=161.95 in symptomatic group which is significant and the p value is <0.05, Fisher exact test <0.05, chisquare test =136.6 in asymptomatic group and is significant)

Table-30: Comparision of Wet mount and Culture in Diagnosis of Trichomonas vaginalis.

Wetmount	Culture in symptomatic Group		Culture in asymptomatic Group	
	Positive	**Negative**	**Positive**	**Negative**
Wetmount Positive	21 (67.74%)	0	5 (55.55%)	0
Wetmount Negative	10 (32.25%)	219	4 (44.44%)	241
Total	**31 (100%)**	**219**	**9 (100%)**	**241**

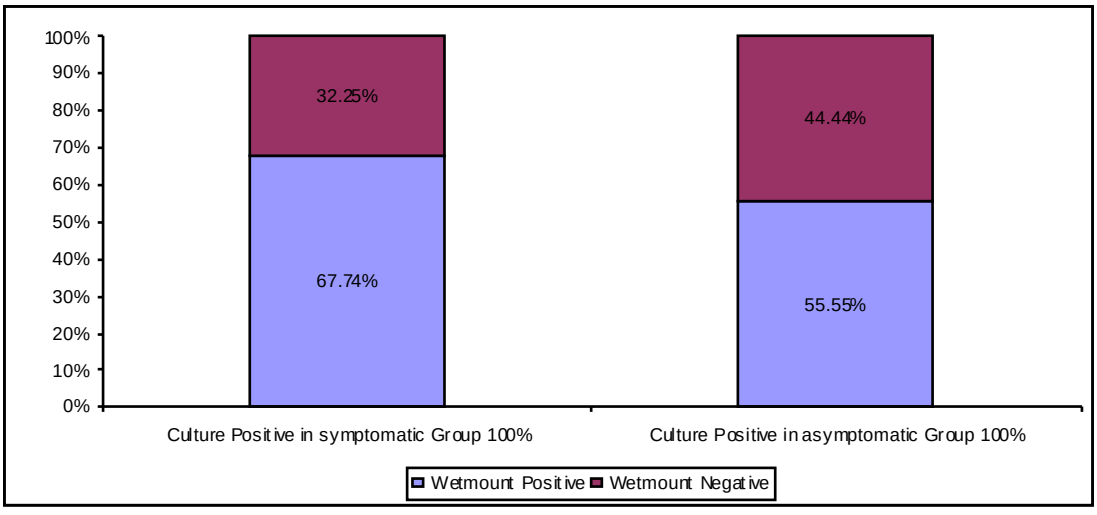

Figure-25. Percentage of Wet mount and Culture Positivity.

4. Other Investigative Methods Compared with Culture:

Culture had 100% sensitivity and specificity, and considered as gold standard procedure. However in our study the sensitivity of culture reduced from 100% to 77.5% done on 3rd and 7th day respectively. (Low sensitivity is probably due to growth inhibition by bacterial and/or candidal contamination of the medium).

Wet mount method had low sensitivity (65%) but high specificity (100%), high PPV (100%), NPV (93.75%) and LR (74.75).

The pH > 4.5 had sensitivity of 82.5% and specificity of 79.1% in diagnosing Trichomoniasis.

Whiff test had sensitivity of 60% (which was comparable to wet mount) and specificity of 82%.

Grams staining for pus cells had 17.5% sensitivity and high specificity of 98.7%.

PAP smear had low sensitivity (12.5%) and high specificity in diagnosis of Trichomoniasis. Most of the Trichomonas positive patients had inflammatory PAP smear.

Table-31.Various Investigative Procedures in Diagnosis of Trichomoniasis and their sensitivities and specificities.

Tests	Sensitivity	Specificity	PPV	NPV	LR
pH (>4.5)	82.5	79.1	25.6	98.1	3.95
Whiff test	60.0	82.4	22.9	96.0	3.41
Wet mount	67.7	100.0	86.7	93.75	74.75
Gram stain (Pus cells)	17.5	98.7	53.9	93.3	13.4
PAP smear (TV +ve)	12.5	100.0	100.0	94.5	-*

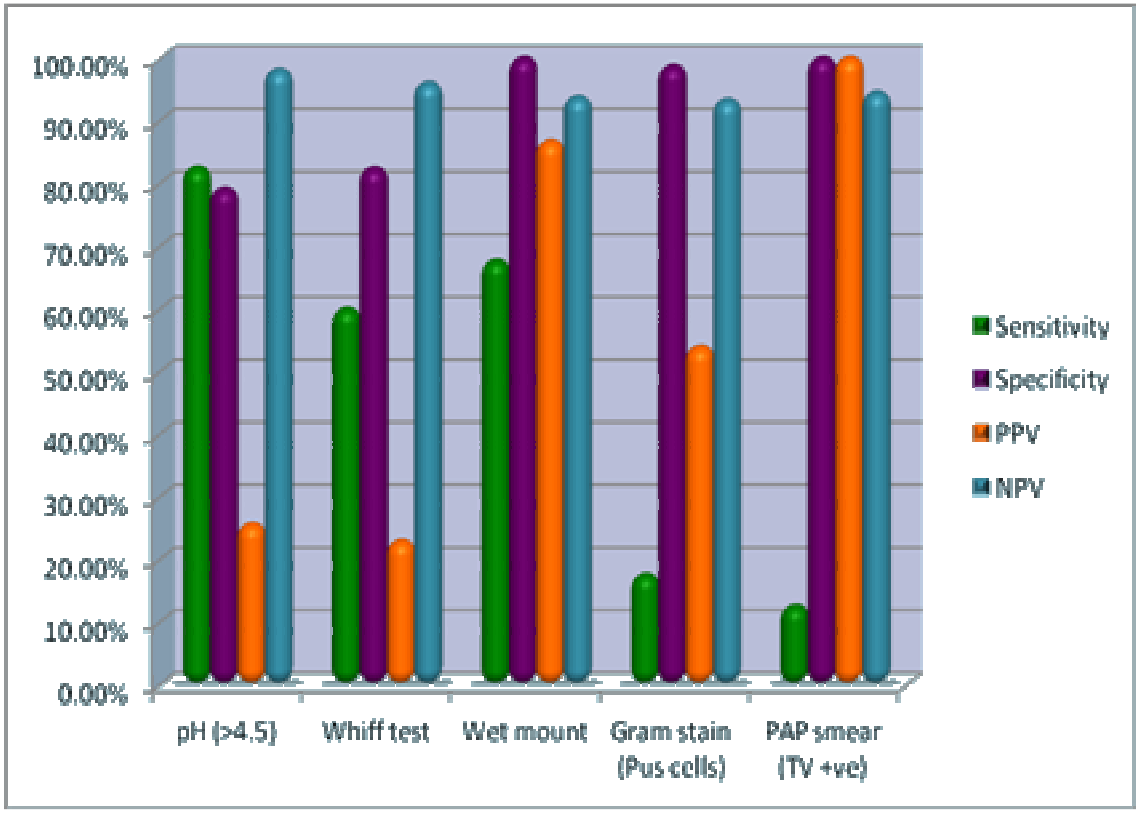

Figure 26: Sensitivity pattern of other Investigative Methods.

D. Associated STD'S

Majority of Trichomoniasis patients were coinfected with Bacterial Vaginosis (64.3%) in symptomatic group and (35.7%) in asymptomatic group. (The p value is 0.285) followed by Mucopurulent cervicitis (p value is 0.82) and Candidiasis (p value is 0.999) which is statistically not significant when compared to Trichomonas negative patients.

Table-32. Associated STD'S with Trichomoniasis.

		Trichomoniasis					
		Symptomatic		Asymptomatic		Total	
		N	%	N	%	N	%
Coexisting STI	Yes	14	70.0	6	30.0	20	100.0
	No	17	85.0	3	15.0	20	100.0
Bacterial vaginosis	Positive	9	64.3	5	35.7	14	100.0
	Negative	22	84.6	4	15.4	26	100.0
Cervicitis	Positive	7	87.5	1	12.5	8	100.0
	Negative	24	75.0	8	25.0	32	100.0
Candidiasis	Positive	2	100.0	0	.0	2	100.0
	Negative	29	76.3	9	23.7	38	100.0
Herpes	Positive	1	100.0	0	.0	1	100.0
	Negative	30	76.9	9	23.1	39	100.0
HIV infection	Positive	0	.0	1	100.0	1	100.0
	Negative	31	79.5	8	20.5	39	100.0
	Total	31	77.5	9	22.5	40	100.0

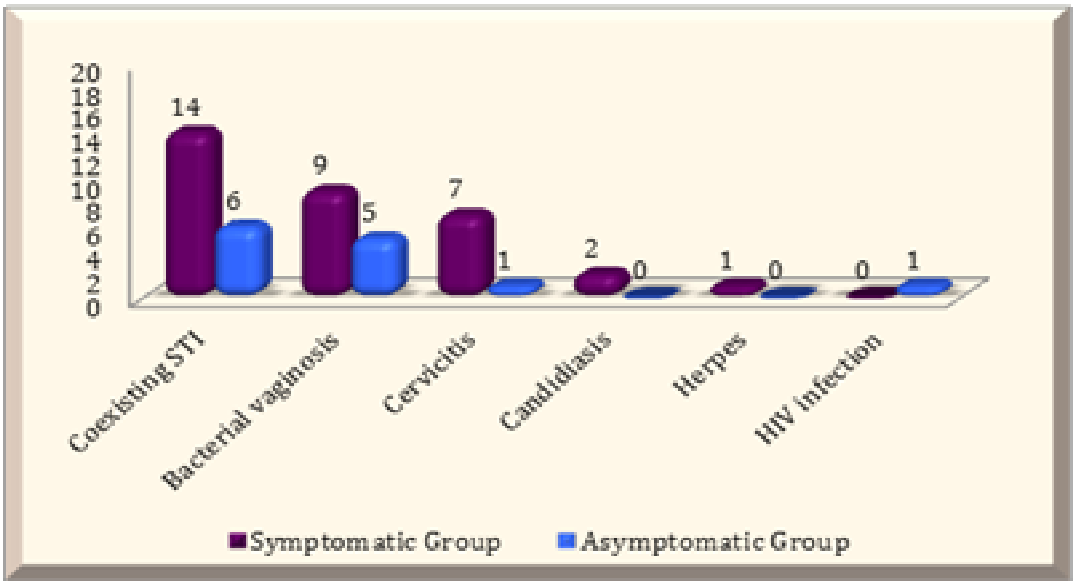

Figure 27: Coinfections seen in Trichomonas Positive Patients.

E. Diagnosis of Study Group:

The most common STDs seen in our study group was Bacterial Vaginosis (21.6%) followed by Mucopurulent cervicitis (16%) and Candidiasis (12.8%).

Table-33: Prevalence of STI in Study Group

Disease	Symptomatic group N=250	Asymptomatic group N=250
1.Trichomonas vaginalis	31 (12.4%)	9 (3.6%)
2. Bacterial vaginosis	54 (21.6%)	27 (10.8%)
3. Candidiasis	32 (12.8%)	29 (11.6%)
4. MPC	40 (16%)	26 (10.4)
5. NV	34 (13.6%)	141 (56.4%)
6. Physiological	58 (23.2%)	13 (5.2%)
7. HIV	3 (1.2%)	6 (2.4%)
8. Herpes	6 (2.4%)	0
9. Carcinoma cervix	5 (2%)	0
10. Genital scabies	1 (0.4%)	0
11. Cervical growth	1 (0.4%)	0
12. Wart	2 (0.8%)	0
13. Others	9 (3.6%)	8 (3.2%)
Total	250	250

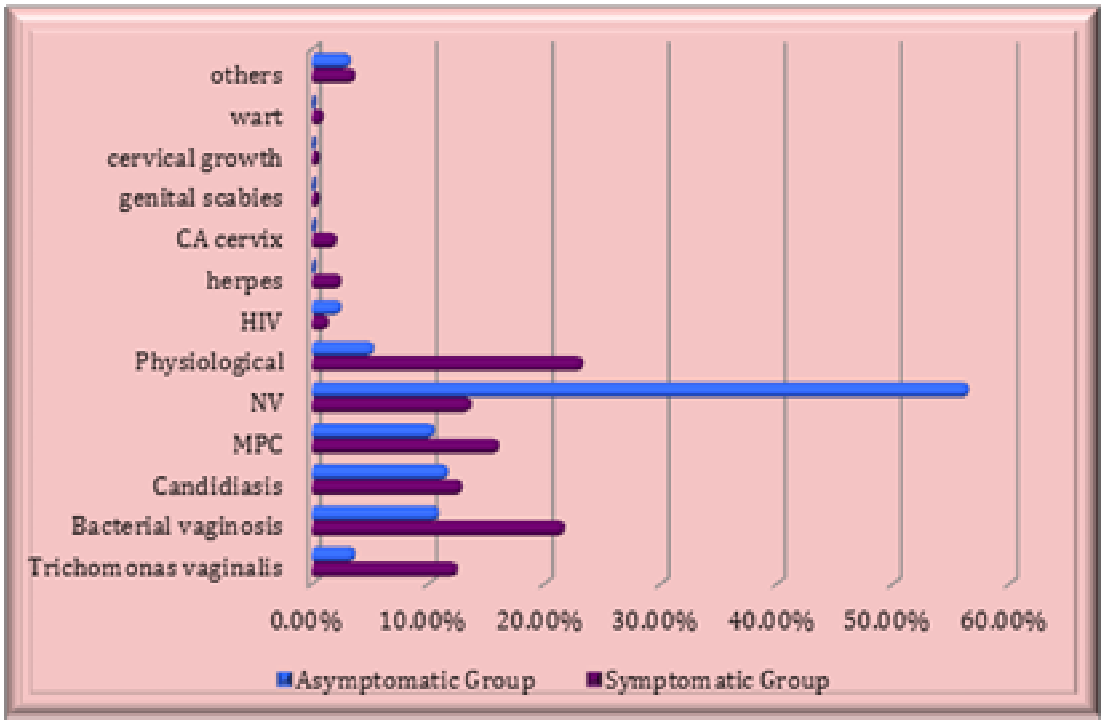

Figure 28: Diagnosis of Trichomonas negative cases in Study Group.

Treatment and Follow up: All the Trichomonas positive patients were treated with Tab Secnidazole 2gm single dose stat and reviewed after 7 days, none of the patients had recurrence in our study.

Partner Treatment: 28partners of 40women with Trichomoniasis was evaluated and all the partners treated with epidose (Tab.Secnidazole 2gm single dose stat).

DISCUSSION

The prevalence of Trichomonas vaginalis infection varies considerably in female population around worldwide, depending on the population studied and techniques employed in the diagnosis. Ranging from 5-74%, the highest rates reported among STI clinic attendees and other high-risk population.[12,27]

In our study a total of 8% (40 of 500women) of women had Trichomoniasis, ie.31 (12.4%) women in the symptomatic group and 9 (3.6%) women in the asymptomatic group had T.vaginalis infection by culture.The prevalence observed in our study was comparable to study done by Mahmoud et al, which was hospital based study done at Egypt with a sample size of 450, of which 290 were symptomatic and 160 were asymptomatic. The prevalence of Trichomoniasis in their study was 7.7% of which 30(10.34%) were symptomatic cases and 3.1% were asymptomatic group.[94]

In the study by Cevahir et al, which included 310 symptomatic patients, the prevalence rate of Trichomoniasis was found to be 12.9%. This is comparable to our study (12.4%) in symptomatic group.[95]

Another study done by Chakaraborthy et al[96] on both symptomatic and asymptomatic patients from rural and urban areas (102 cases) at Surat, India, showed total prevalence of (34.4%)

Trichomoniasis which is significantly higher when compared to prevalence of our study (8%).

DEMOGRAPHIC CHARACTERS

AGE

The prevalence of Trichomonas vaginalis has been shown to increase with age unlike in Chlamydia and Gonorrhoea.[12] The increased prevalence of Trichomonal infection in older women suggests longer duration of infectiousness and the predominant asymptomatic nature of infection.[2]This was evident from our study as the mean age at presentation for women with T.vaginalis infection was 32±7years in symptomatic and 34±9yrs in asymptomatic group. This was comparable with the population based study from Vanuatu, Australia by Fotinatos et al,[97]and study done by Haythan et al[98] who reported a mean age of 36.6 years. However, study by Dahab et al[99] reported a lower mean age at presentation ie.20 to 25yreas. This probably reflects early onset of sexual activity in the high-risk population.

RESIDENCE

Majority of women in our study were residing at urban areas (67%) and about 33% women are from rural areas.

MARITAL HISTORY

Most of the women in symptomatic group (74.2%) and (62.5%) of women in asymptomatic group were married and 25% were single in

both symptomatic and asymptomatic patients. The risk of infection is more inwomen living single (16.1%) as compared to Trichomonas negative single women (5.5%). Klinger et al[58]observed that compared with married women, the risk of Trichomoniasis was significantly increased among women who are separated, which is comparable to our study, though Trichomoniasis observed in majority of married women, the prevalence in separated women found to be more (16.1%) compared to Trichomoniasis negative cases in their study.

SOCIOECONOMIC STATUS

About 54.8% of women with Trichomoniasis in our study belonged to lower (class V) socioeconomic status when compared to upper lower (class IV) in Trichomonas negative patients.

EDUCATION STATUS

Majority of women with Trichomoniasis in our study had low education status till primary standard. About 48.7% women studied less than 5thstandard and 35.9% were till 6-12th standard whereas most of the Trichomonas negative cases had (52.2%) education till 6-12th standard. However in the study conducted by Haythm .M et al showed illiterates (61.8%) as majority.[98]

HIGH RISK AND BEHAVIOURAL CHARACTERS

Contraception

Most of the Trichomonas positive women and Trichomonas negative women in our study were Tubectomised. However 10.3% of Trichomonas positive women give history of atleast one episode of abortion when compared to only 2% of Trichomonas negative women with history of abortion.which is significant.

Past H/o PID/infertility/veneral disease

As many as 6 women in symptomatic group and 2 women in asymptomatic group gave history of previous venereal disease in the form of vaginal discharge and two of the patients in symptomatic group had history of PID, which is not significant when compared to Trichomonas negative cases.

Substance abuse

Only two women of Trichomonas positive cases in asymptomatic group had history of alcohol abuse and is not significant and none of the women in our study indulged in smoking.

Pre and extramarital contact

Majority of Trichomonas positive cases (45.2%) in symptomatic group and 50% of women in asymptomatic group had pre and extramarital contact. When compared to 8.5% of women in Trichomonas negative group which is statistically significant. About 7women of the

Trichomoniasis in our study group were indulged in prostitution as compared to 4women in Trichomonas negative women.

Husband having extramarital contact

About 22.6% of Trichomonas positive patients in symptomatic group gave history of husband having extramarital contact, when compared to only 1.25% of women in negative cases, which is statistically significant.

Symptoms in partner

The history suggestive of Urethritis and Balanitis was present in 7.7% of men in Trichomonas positive cases and 5.1% of men had history of dysuria and pruritus.

Significant risk factors associated with T.vaginalis infection in our study were lowsocioeconomic status, a history of pre/extramarital sexual contact in the women, husband having extramarital contact, a history of symptomatic partner in the form of dysuria and urethral discharge that suggestive of Trichomoniasis in men.

Kaur et al[26]in their study in North India to assess the prevalence of Trichomonas vaginalis infection in symptomatic women as well as in women with carcinoma cervix and HIV infection observed that being a housewife, belonging to the middle socioeconomic status and non-use of contraception were significantly associated with Trichomoniasis. Klinger et al,[58]in their study to determine the predictors of T.vaginalis

infection in women in Moshi, Tanzania, observed that having a partner withT.vaginalis was the strongest risk factor in women.Other risk factors observed were daily alcohol consumption, being separated, having a partner who had children with other women.

Sutton et al[57]reported that factors associated with increased likelihood of T.vaginalis infection in women in the United States were belonging to non-Hispanic black race, a greater number of lifetime sex partners, increasing age, lower education level and poverty.

Clinical characterestics

Trichomonas vaginalis is known to cause persistence of untreated infection.[100] In our study the mean duration of onset of symptoms in patients with Trichomoniasis is 30years and the mean duration of vaginal discharge in patients with Trichomoniasis was 4.8months(149 days).

Signs of infection in symptomatic women include vaginal discharge (92.5%), frothy foul smelling discharge in (50%) and erythema in (10%) women.[8]The characteristic features of the infection are present in only about 40% to 50% of patients.[54] Women with T.vaginalis may have abdominal pain due to salpingitis or endometritis and postcoital bleeding due to cervicitis.[101]

The signs and symptoms associated with the infection have a relatively low positive predictive values for Trichomoniasis because of

the frequent occurrence of these signs and symptoms among women with other infections.[104] Fouts et al [73] in their study on women attending a STI clinic in Georgia demonstrated that if the clinical features alone were used to diagnose Trichomoniasis, 88% of the infected women would be missed and 29% would be falsely indicated as having infection.

In our study women with Trichomoniasis presenting with vaginal discharge, vulval itching and lower abdominal pain was the most frequently reported symptom, (sensitivity 81.5 %), followed by dysuria. However, the reported symptoms had low positive predictive values for Trichomoniasis. Women with concurrent Trichomoniasis and other infections were more symptomatic with higher frequency of reported itching and lower abdominal pain as compared to those with Trichomoniasis alone, though not statistically significant.

Among the clinical signs in women with Trichomoniasis, having a profuse vaginal discharge, malodorous discharge, frothy discharge and mucopurulent or purulent discharge were significantly associated with Trichomoniasis. Frothy discharge was observed in only 58% women in our study, but was the most specific sign with a positive predictive value of 100%. Mucopurulent or purulent discharge was observed in 38.7% women. Colpitis macularis is a specific clinical sign for Trichomonas infection but is detected with reliability only by colposcopy and rarely

by using routine examination.[54] Colpitis macularis was not observed in any of the women by naked eye examination in our study as colposcopy was not done in our study.

Wolner-Hanssen et al,[102] in their study on clinical manifestations of Trichomoniasis done on women attending a STI clinic observed that the frothy discharge was found in only 8% of women with Trichomoniasis and had a specificity of 99% and the PPV of 62%; colpitis macularis was a highly specific sign (99%) and had a high PPV (90%), but was seen without a colposcope in only 2 of the 52 women who had the finding on colposcopy. Purulent vaginal discharge in their study had a specificity of 76% and a PPV of only 30%.

INVESTIGATION

Considering culture of Trichomonas vaginalis as the "gold standard" the sensitivity and specificity of microscopic and cytologic examination were assessed

Whiff test and pH testing are recommended in the evaluation of vaginal discharge and can be used as screening methods.[103,104]

The pH testing was reported to be a highly sensitive but less specific screening tool for diagnosis of Trichomoniasis.[104]A similar finding was observed in our study, where pH of more than 4.5 had 82.5% sensitivity, and specificity of 79.1%..

This was comparable to study done by Plourd et al[105] reported a lower sensitivity of 70% for pH more than 4.5 in the diagnosis of Trichomoniasis. And Whiff test had low sensitivity(60%) and specificity(82.4%), in the diagnosis of Trichomoniasis. Whiff test positivity was significantly higher in the mixed infection group as compared to Trichomoniasis alone because of the co-occurrence of bacterial vaginosis.

PAP smear examination had low sensitive (32.5%) and high (100%) specificity in diagnosing Trichomoniasis. Pus cells in Grams stain had low sensitivity (17.5%) and high specificity of (98.7%).

WET MOUNT

Wet mount using normal saline for demonstration of Trichomoniais had low sensitivity (65%) and high specificity (100%), PPV (86.7%), NPV (97%) and LR (74.75%). Wet mount was positive in 21 patients and negative in 10 patients in symptomatic group and positive in 5 and negative in 4 patients in asymptomatic group.These wetmount negative patient were positive by culture and none of the wet mount positive sample was negative by culture. (p value is <0.05 and is significant in both symptomatic and asymptomatic patients).

Culture of Trichomonas vaginalis using Diamonds medium

Culture proved diagnosis in all 40 cases of Trichomoniasis with 100% sensitivity and specificity. The culture had 100% sensitivity and

specificity if examined with in 3days of inoculation. As compared to 5th day and 7th day where the sensitivity level decreased to 97.5% and 77.5% respectively, however the specificity remained 100%.

In a study done by Mohmoud et al[94] (450 cases) culture identified 35 (100%) of cases whereas Wetmount and PAP smear diagnosed 34.2% and 60% of patients respectively which is similar to our study.

Another study done by Cevahir et al [95] showed that culture was positive in all 40 cases of Trichomoniasis (100%) were as Wetmount was positive only 20 (50%) of cases.

COINFECTION

Majority of Trichomoniasis patients were coinfected with Bacterial Vaginosis (64.3%) in symptomatic group and 35.7% in asymptomatic group with a pvalue of 0.285 which is not statistically significant. The Mucopurulent cervicitis (p value is 0.821) and Candidiasis (p value is 0.999) were not statistically significant in our study.

Table-34 Comparision between Symptomatic and Asymptomatic Trichomoniasis Positive Patients

	Symptomatic patients n=31	Asymptomatic patients n=9
1.Demographic factors and high risk behaviours: Is almost similar in both the group		
a) Age	Mean age is 32	Mean age is 34
b) Residence	Urban women (67%)	Urban women (70%)
c) Socioeconomic status	Lower class	Lower class
d) Education status	Upto higher primary	Lower primary
e) Marital status	Married women (74.2%)	Married women (62.5%)
f) Pre/Extra maritalcontact	Present in 45%	Present in 50%
g) Promiscuity of partner	Present in 62%	None
2.Clinical features:		
a. Vaginal discharge	Moderate to profuse foulsmelling (64.5%), frothy (58%) purulent discharge.	Scanty to moderate, oudourless discharge. Foul smelling in (22.2%), frothy(22%), mucoid discharge
b.Vaginal erythema	Seen in 12% of women	None had erythema
3.Investigations:		
a) Wetmout Positive	Positive in 21 patients (67.7%)	Positive in 5patients (55.5%)
Negative	Negative in 10 patients (32.25%)	Negative in 4patients (44.4%)
b) Culture	Positive in all 31 patients (100%)	Positive in all 9 patients (100%)
4. Prevalence of Trichomoniasis in our study:		
Prevalence	12.4%	3.6%
5. Associated STI's		
Associated STI's	70% associated with coinfections, most common being Bacterial vaginosis.	30% associated with coinfection, most common being Bacterial vaginosis.

SUMMARY

1) The total prevalence of Trichomoniasis in our study is 8%. About 12.4% (31 patients) in symptomatic group and 3.6% (9 patients) in asymptomatic group.

2) Isolation of Trichomonas vaginalis is best done by Culture in Diamond's media on 3rd day of inoculation.

3) Sensitivity and specificity of Culture is 100% in our study. The sensitivity of Wet mount is 67.7% in symptomatic group and 44.4% in asymptomatic group and specificity is 100% in both the groups. Wet mount was negative in 14 patients (10 in symptomatic, 4 in asymptomatic group), these wet mount negative sample were positive by culture. Thus culture is considered as gold standard investigation for Trichomoniasis.

4) Other Investigative procedures:

   a. The pH > 4.5 had sensitivity of 82.5% and specificity of 79.1% in diagnosing Trichomoniasis.

   b. Whiff test had sensitivity of 60% (which was comparable to wet mount) and specificity of 82%.

   c. PAP smear had low sensitivity (12.5%) and high specificity in diagnosis of Trichomoniasis.

d. The Gram's staining for pus cells had 17.5% sensitivity and 98.7% specificity.

5) Demographic and socio-economic factors of Trichomoniasis patients derived from our study are:

a. Trichomoniasis seen commonly in age group of 30 ± 4 years both in symptomatic and asymptomatic patients.

b. Most of the Trichomonas positive women in our study were residing in urban areas and belongs to lower (class V) socioeconomic status and had low educational status.

6) Clinical characteristics of Trichomonas positive patients derived from our study are:

a. The mean duration of onset of symptoms is 30 years and mean duration of vaginal discharge was 4.8 months (149 days) in symptomatic women.

b. The most common signs and symptoms of Trichomoniasis women in symptomatic group are vaginal discharge (92.5%), frothy foul smelling discharge (58%). The other common symptoms seen along with vaginal discharge are vulval itching, LAP and dysuria. The characteristic features of the infection are seen only in about 40% to 50% of patients.

c. The discharge characteristics commonly seen in asymptomatic patients are scanty to moderate, odourless, mucoid discharge.

7) Risk factors associated with Trichomoniasis in our study are:

a. Women with low socioeconomic status and residing in urban areas.

b. Women who were single and separated from their husband.

c. Women with multiple sexual partner and

d. Women whose husband having extramarital contact.

8) The most common coinfection with Trichomoniasis in our study is Bacterial Vaginosis and Cervicitis.

9) There was no association between Trichomoniasis and HIV in our study. (out of 9 positive HIV cases in the study group ,one patient in asymptomatic group was dignosed as Trichomonisis)

10) There was also no association between Trichomoniasis and cervical cancer in our study. (In the age group of 40-55yrs, 5 patients in symptomatic group with cervical cancer were negative for Trichomonas vaginalis).

CONCLUSION

- The Prevalence of Trichomoniasis in Symptomatic Group is 12.4%.
- The Prevalence of Trichomoniais in Asymptomatic Group is 3.6%.
- Culture is the gold standard investigation in the diagnosis of Trichomoniasis with sensitivity and specificity of 100%.
- Wet mount had low sensitivity and high specificity in our study. Wet mount failed to identify 14 cases which was positive by culture (p value is <0.05).
- Routine use of Wet mount solely for the diagnosis of Trichomoniasis leads to false negative results, hence culture must be routinely done whenever Wetmount is negative and Trichomoniasis is strongly suspected.
- Clinical characteristics of symptomatic patients are moderate to profuse foul smelling frothy mucopurulent vaginal discharge, when compared to scanty, moderate odourless mucoid discharge of asymptomatic patients.
- Risk factors associated with Trichomoniasis are women with low socioeconomic status, who are single, separated from their husband, having multiple sexual partners and women whose husband has extramarital contact.

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ABBREVIATIONS

AC	:	Adenocarcinoma
AGNOS	:	Atypical glandular cells not otherwise specified
AP	:	Adhesin proteins
BV	:	Bacterial vaginosis
CDC	:	Center of Disease control
CPE	:	Cytopathological Effects
FCU	:	First catch urine
Gm	:	Grams
HGSIL	:	High grade squamous intraepithelial lesion
HIV	:	Human Immunodeficiency Virus
IL	:	Interleukin
KOH	:	Potassium hydroxide
LSCS	:	Lower segment ceaserean section
LR	:	Likelyhood ratio
MPC	:	Mucopurulent cervicitis
NACO	:	National AIDS control organization
Paps smear	:	Papanicolaou smear
SCC	:	Squamous cell carcinoma
SD	:	Standard deviation
Sn	:	Sensitivity
Sp	:	Specificity
sp	:	Species
STI	:	Sexually transmitted infections
TV	:	Trichomoniasis
T.vaginalis	:	Trichomonas vaginalis
TNF α	:	Tumor necrosis factor alpha
TLR	:	Toll-like receptor
WHO	:	World health organization

PROFUSE VAGINAL DISCHARGE

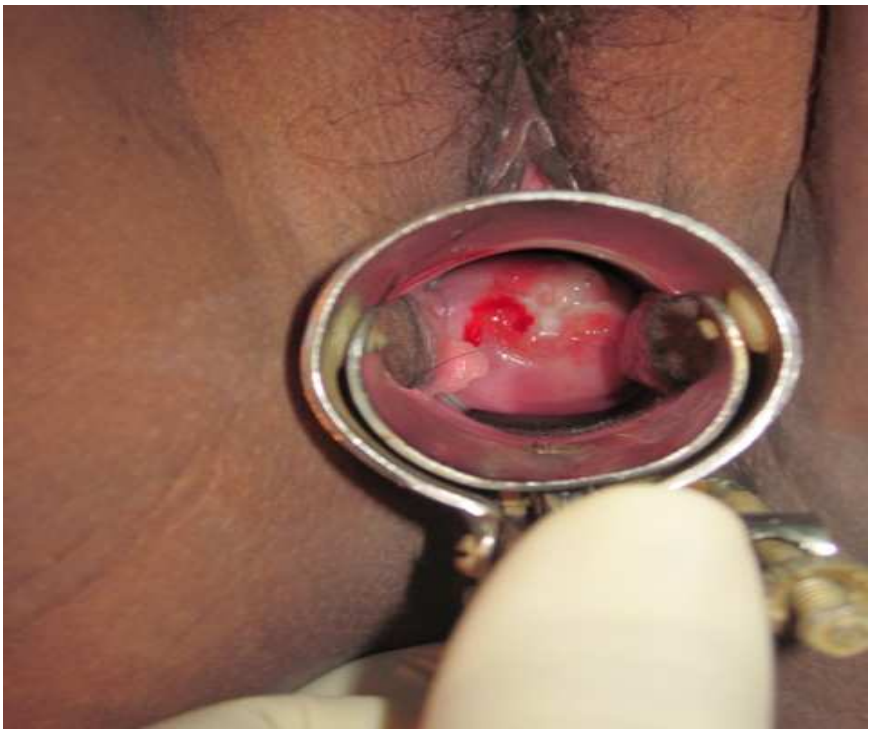
FROTHY PURULENT DISCHARGE

SPECULUM EXAMINATION: FROTHY VAGINAL DISCHARGE

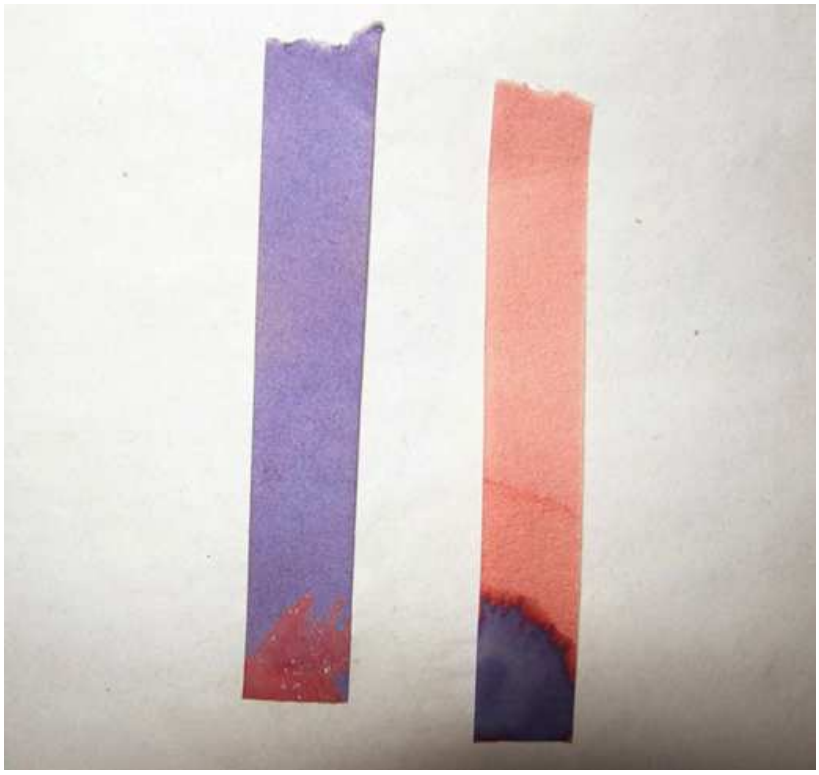
SPECULUM EXAMINATION
THICK MUCOPURULENT VAGINAL DISCHARGE

Speculum examination: Profuse Mucoid Discharge

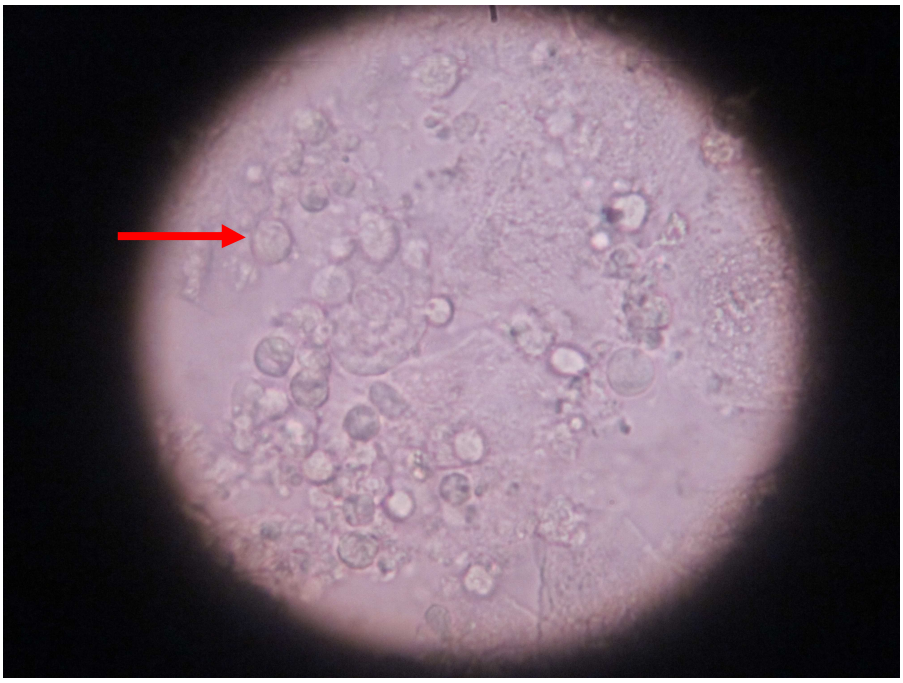
SPECULUM EXAMINATION
FROTHY VAGINAL DISCHARGE WITH CERVICAL EROSION



THE pH TEST



WET MOUNT
TRICHOMONAS VAGINALIS (PEAR SHAPED, FLAGELLATED) UNDER LOW POWER

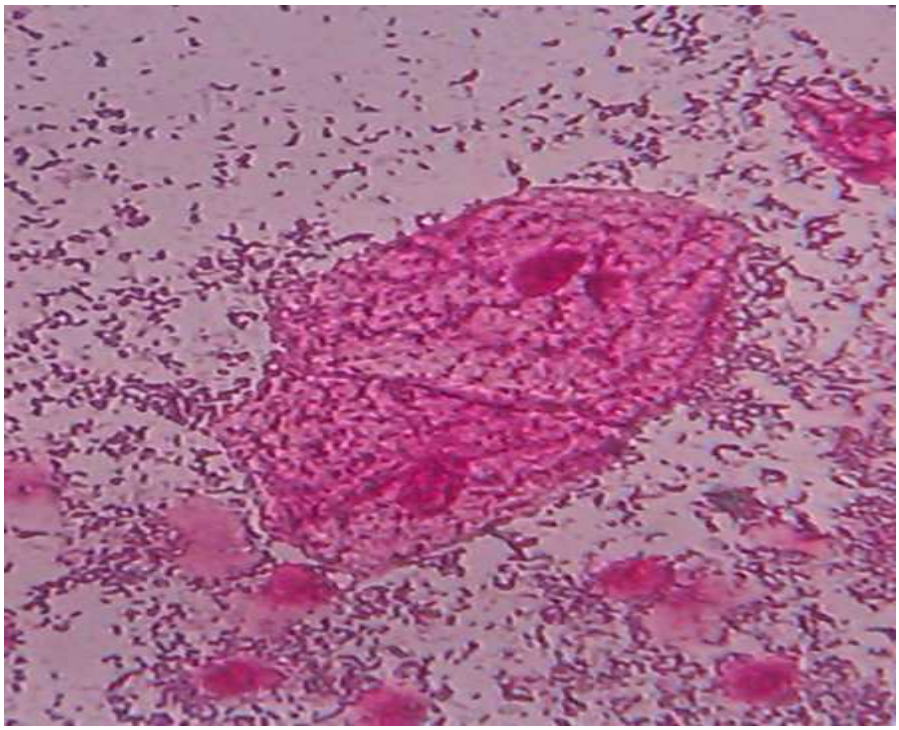


WET MOUNT
TRICHOMONAS VAGINALIS (PEAR SHAPED, FLAGELLATED)
UNDER LOW POWER

WET MOUNT
TRICHOMONAS VAGINALIS (PEAR SHAPED, FLAGELLATED)
UNDER HIGH POWER

EPITHELIAL CELLS IN GRAMS STAIN

CLUE CELLS IN GRAMS STAIN

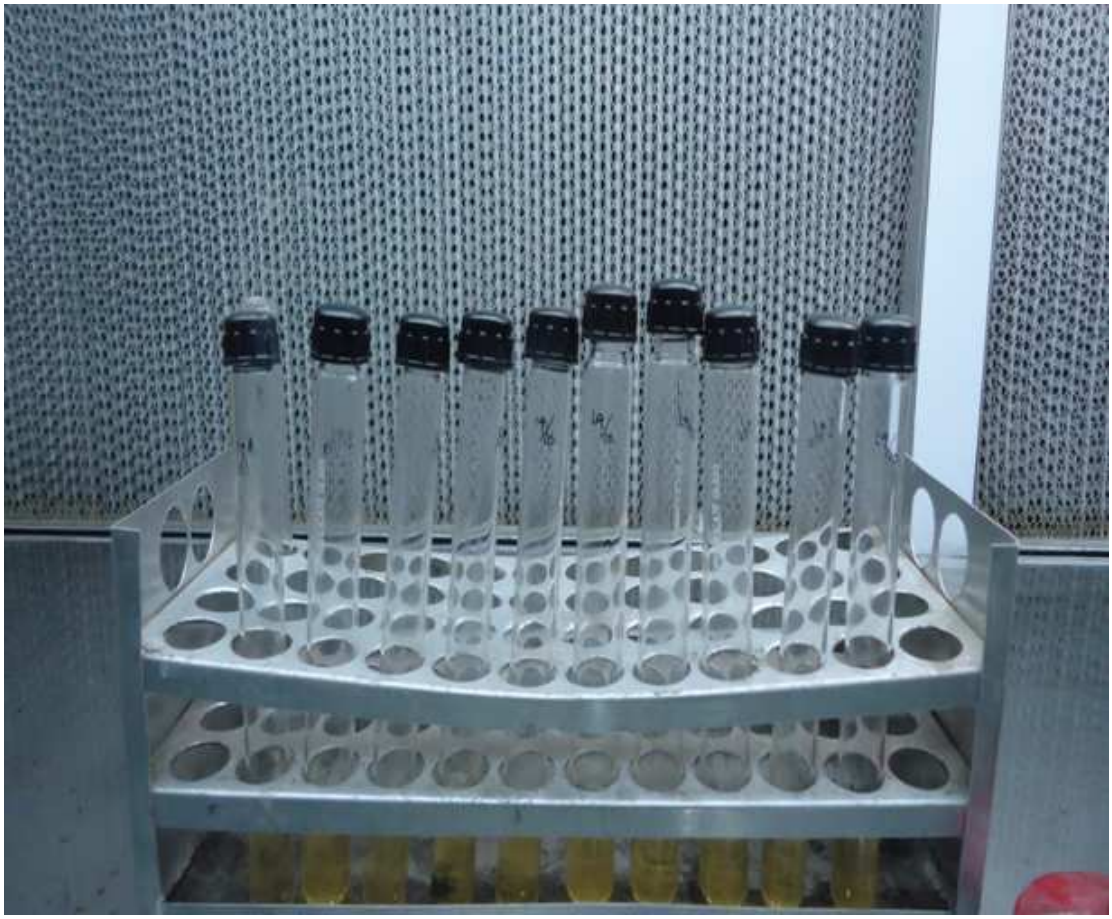


MATERIALS REQUIRED FOR DIAMOND'S MEDIA PREPARATION

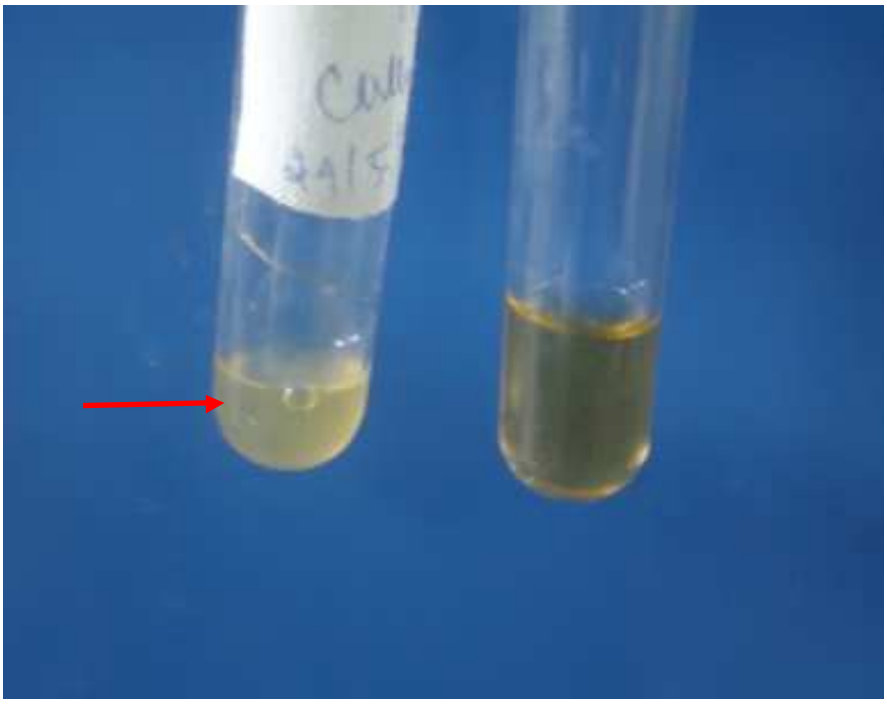
HORSE SERUM

PREPARED MEDIUM INCONICAL GLASS JAR

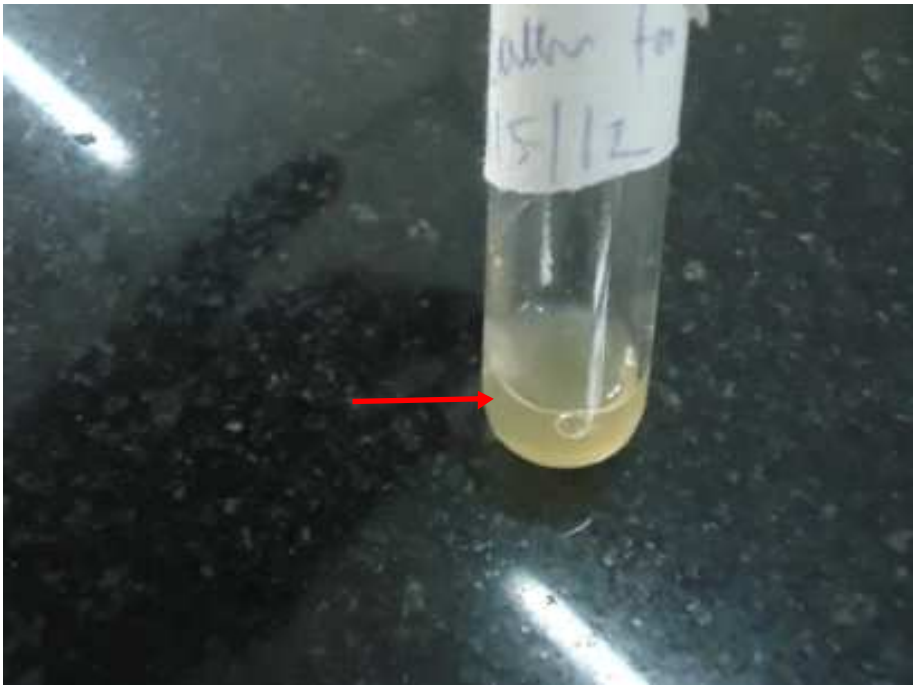
15ML CAPACITY CAPPED GLASS TUBES CONTAINING DIAMOND'S MEDIUM



GROSS APPEARANCE OF TRICHOMONAS POSITIVE SAMPLE



GROSS APPEARANCE: TURBIDITY



INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI -3

Telephone No : 044 25305301
Fax : 044 25363970

CERTIFICATE OF APPROVAL

To
Dr. Anupama M.P
PG in MDDVL
Madras Medical College, Chennai -3

Dear Dr. Anupama M.P

The Institutional Ethics committee of Madras Medical College, reviewed and discussed your application for approval of the proposal entitled " Comparative study of Trichomonas vaginalis infection in symptomatic and asymptomatic female patients attending STD outpatient dept diagnosed by wet mount and culture method" No.05012012.

The following members of Ethics Committee were present in the meeting held on 27.01.2012 conducted at Madras Medical College, Chennai -3.

1.	Prof. S.K. Rajan. MD	-- Chairperson
2	Prof. Pregna B. Dolia MD Vice Principal, Madras Medical College, Chennai -3 (Director , Institute of Biochemistry, MMC, Ch-3)	-- Member Secretary
3.	Prof. B. Kalaiselvi. MD Prof of Pharmacology ,MMC, Ch-3	-- Member
4.	Prof. Shruti Kamal MS Prof of Surgery, Madras Medical College , Ch-3	-- Member
5.	Thiru. S. Govindsamy. BA BL	-- Lawyer

We approve the proposal to be conducted in its presented form.

Sd/ Chairman & Other Members

The Institutional Ethics Committee expects to be informed about the progress of the study, and SAE occurring in the course of the study, any changes in the protocol and patients information / informed consent and asks to be provided a copy of the final report.

Member Secretary, Ethics Committee

PATIENT CONSENT FORM

Title of the study:- " Comparative study of Trichomonasvaginalis infection in symptomatic and asymptomatic female patients attending STD outpatient dept diagnosed by wet mount and culture method.

Name of the Participant: _____.

Name of the Principal (Co-Investigator): Dr ANUPAMA.M.P

Name of the Institution: Government General Hospital, Chennai.

Documentation of the informed consent

I _____ have read the information in this form (or it has been read

to me). I was free to ask any questions and they have been answered. I am over 18 years of age

and, exercising my free power of choice, hereby give my consent to be included as a participant

in the study..

1. I have read and understood this consent form and the information provided to me.

2. I have had the consent document explained to me.

3. I have been explained about the nature of the study.

4. My rights and responsibilities have been explained to me by the investigator.

5. I agree to cooperate with the investigator and I will inform him/her immediately if I suffer

unusual symptoms.

6. I have not participated in any research study within the past _____month(s).

7. I am aware of the fact that I can opt out of the study at any time without having to give any

reason and this will not affect my future treatment in this hospital.

8. I hereby give permission to the investigators to release the information obtained from me as

result of participation in this study to the sponsors, regulatory authorities, Govt. agencies, and

IEC. I understand that they are publicly presented.

9. My identity will be kept confidential if my data are publicly presented

10. I am aware that if I have any question during this study, I should contact at one of the addresses listed above. By signing this consent form I attest that the information given in this document and the HIV consent form has been clearly explained to me and apparently understood by me, I will be given a copy of this consent document.

Participant's Initials: _____

For adult participants:

Name and signature / thumb impression of the participant (or legal representative if participant incompetent)

_____ _____ _____

Name Signature Date

Name and Signature of impartial witness (required for illiterate patients):

_____ _____ _____

Name Signature Date

Address and contact number of the impartial witness:

Name and Signature of the investigator or his representative obtaining consent:

_____ _____ _____

Name Signature Date

PROFORMA :

Serial No :

STD OP No :

Name :

Sex :

Age:

- ☐ 18-25
- ☐ 26-35
- ☐ 36-45
- ☐ ≥46-55

Address: ☐ Rural/Urban

Occupation
- ☐ Private Employee
- ☐ Government Employee
- ☐ Self Employee
- ☐ Unemployed

Monthly Income:
- ☐ <500
- ☐ 5000-10000
- ☐ 15000
- ☐ >15000

Education Status: ☐ Illiterate

☐ <5th

☐ 6th – 12th

☐ Graduate

☐ `Professionals

Sexual History:

Marital status: Married / Single/widow

Married since: ☐ <5 years

☐ 5-10 years

☐ 11-15 years

☐ > 15 years

Premarital Contact : Yes / No

If yes Commercial sexworker ☐

Homosexual ☐

Transgender ☐

Known person ☐

Extra marital contact: Yes/ No

If yes ☐ Commercial sexworker

Homosexual ☐

☐ Transgender

☐ Known person

Condom usage with partner:

- ☐ Always
- ☐ Occasionally
- ☐ Never

Contraceptive followed:

- ☐ Oral
- ☐ Condom /Shield
- ☐ IUD
- ☐ No contraceptive followed

Previous history of sexually transmitted infection: Yes/ No

If yes

- ☐ Genital ulcer
- ☐ Genital discharge
- ☐ Others

Whether diagnosed properly and took appropriate treatment: Yes / No

Husband(Partners) with pre/Extramarital contact: Yes/ No

Substance abuse:Yes/No

Presenting complaints:

C/O Genital ulcer

C/O Genital discharge

Duration history

Others if specify

H/O Itching over genitalia

H/O swelling in inguinal region

H/O burning micturition

H/O oral lesion

H/O lower abdominal pain

H/O Dyspareunia

H/O Dysmenorrhoea

Menstrual H/O: Regular/Rrregular/Relation to discharge present or absent.

Obstetric H/O: Normal delivery/ LSCS/Abortion/Nullipara.

Past history:

TB, BA, any major illness.

H/O blood transfusions and any major surgeries.

Previous history of venereal diseases.

Personal history:

H/O alcohol intake.

H/O smoking.

H/O IV Drug abuse.

General Examination:

Pallor, Icterus, Cyanosis, Clubbing ,lymphadenopathy

Pulse rate, Blood pressure, Temperature

CVS:

RS:

P/A:

CNS:

Skin and mucous membrane:

Genital Examination:

Examination Inguinal lymphnode.

External genitalia for any genital lesion .

Speculum examination.

Bi manual Examination.

In case of genital ulcers:

Dark field examination for Treponema pallidum.

Tzanck test for multi nucleated gaint epithelial cells.

Gram stain for Haemophilus ducreyi and Candida.

Tissue smear and Leishman's stain for klebsiella granulomatis.

In case of vaginal discharge:

Wet mount microscopy for Trichomonas vaginalis.

Culture for Trichomonalis vaginalis.

10% KOH preparation for Candida albicans.

Gram stain of vaginal smear for clue cells and Candidal hyphae.

Gram stain of endocervical smear for gonococci.

In addition to above investigation endocervical swab for gonococcal culture and for PAP smear are collected for all female patients.

Blood sample for blood VDRL and HIV antibody test are taken.

SYMPTOMATIC PATIENTS

	DEMOGRAPHIC, BEHAVIOUR AND REPRODUCTIVE HISTORY														DISEASE CHARACTERISTICS & GENITAL EXAMINATION												INVESTIGATIONS										DIAGNOSIS	
serial no.	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstetric history	Symptoms in partner	Past h/o PID / infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	Gram stain	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
1	45	2	3	1	2	2	3	1	1	1	1	4	1	1	35	7	1	6	1	1	2	3	2	4	2	2	1	2	1	2	1	6	1	P	P	P	N	N	NO	TV
2	26	1	4	1	1	1	3	1	1	1	1	3	1	1	25	365	1	3	1	1	2	1	1	3	1	1	1	2	1	2	1	1	2	P	P	N	N	N	YES	TV/BV
3	46	2	1	1	1	1	3	1	1	1	1	4	1	1	46	10	1	6	1	1	2	1	1	3	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	UTI
4	32	1	2	2	1	1	3	1	1	1	1	4	1	1	32	8	2	7	1	1	2	3	1	3	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
5	18	1	1	1	1	2	1	1	1	1	3	1	1	1	18	7	1	1	1	1	2	3	1	1	1	1	1	1	1	1	2	6	1	N	N	N	N	N	NO	CAN
6	29	2	3	1	2	1	4	1	1	4	1	4	1	1	28	365	1	7	1	1	2	1	1	3	1	5	1	1	1	1	2	3	1	N	N	N	N	N	NO	CAN
7	50	1	1	2	1	1	3	1	1	1	1	4	1	1	50	7	1	1,3	1	1	2	3	1	3	3	1	2	1	1	1	1	2	1	N	N	N	N	N	NO	BV
8	33	1	3	2	1	1	3	1	1	1	1	3	1	1	32	365	2	1	1	1	2	1	1	1	1	1	1	1	1	1	2	6	1	N	N	N	N	p	NO	CAN
9	30	1	2	2	1	1	3	2	2	1	1	4	1	1	29	365	1	6	1	1	2	1	1	3	1	1	1	1	1	3	2	5	1	N	N	N	N	N	NO	CAN
10	24	2	3	2	2	1	4	1	4	4	1	4	1	1	24	60	2	6	1	1	2	1	1	2	1	5	1	1	1	1	1	6,1	1	N	N	N	N	N	NO	PHY
11	44	1	3	1	1	1	3	1	5	1	1	4	1	1	42	720	1	6	3	1	1	1	2	3	1	1	1	1	1	1	1	1	1	N	N	N	N	N	NO	LC
12	37	1	1	2	1	1	3	1	1	1	1	4	1	1	37	30	1	6	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1	N	N	N	N	N	NO	PHY
13	40	2	2	1	1	1	1	1	1	1	1	4	1	1	40	180	2	6	1	1	2	3	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
14	20	1	2	2	1	1	3	1	5	1	1	4	1	1	19	365	1	6	1	1	2	2	1	1	1	1	1	1	1	3	2	5	1	N	N	N	N	N	NO	CAN
15	35	1	4	1	1	1	1	1	1	1	1	4	1	1	35	30	1	3	1	1	2	2	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
16	35	2	1	1	1	1	3	1	1	1	1	4	1	1	36	210	1	5	1	1	2	3	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
17	50	1	2	2	1	1	1	1	1	1	1	4	1	1	48	150	1	6	1	1	2	3	1	3	1	1	1	2	2	1	2	1,5	1	N	N	N	N	N	NO	BV/CAN
18	27	2	3	0	1	1	1	1	1	1	1	4	1	1	22	4yrs	1	3	1	1	2	2	1	1	1	1	1	1	1	3	2	5	1	N	N	N	N	N	NO	CAN
19	27	1	3	2	1	1	1	1	1	1	1	4	1	1	27	90	1	1,3	1	2	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
20	35	2	3	2	1	2	1	1	1	1	1	3	1	1	35	30	1	1,3	1	1	2	2	2	4	3	1	1	2	1	2	1	6	1	P	P	P	N	N	NO	TV
21	40	1	4	0	1	1	1	1	1	2	1	4	1	1	40	15	1	1	1	1	2	1	1	3	2	1	1	2	2	4	1	1	1	N	N	N	N	n	NO	BV
22	36	2	3	2	1	1	3	1	1	1	1	4	1	1	33	3y	1	1,3,5	2	1	2	2	1	3	1	1	1	1	1	3	2	5	1	N	N	N	N	N	NO	CAN
23	31	1	4	2	1	1	3	1	1	1	1	4	1	1	31	180	2	2,3	1	1	2	2	3	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
24	27	1	3	1	1	1	1	1	1	2	1	4	1	1	21	7y	2	3	1	1	2	3	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
25	32	2	4	0	1	1	2	1	1	1	4	4	1	1	30	2y	1	1	1	1	2	3	3	4	1,3	1	1	2	2	2,4	1	1,5	1	P	P	N	N	N	YES	TV/BV
26	39	1	4	2	1	1	1	1	1	1	1	4	1	1	39	3	1	2	3	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY/BC
27	22	2	3	3	2	2	2	2	4	4	3,4	4	1	1	22	7	1	2,3	2	2	2	2	2	2	3	5	1	1	1	1	1	3	1	N	N	N	N	N	NO	HERPES
28	40	1	3	2	1	1	1	1	1	1	1	4	1	1	38	60	1	3	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
29	30	1	4	0	1	1	1	1	1	1	1	4	1	1	30	20	1	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
30	23	2	3	2	1	1	1	1	1	1	1	4	1	1	20	3Y	2	6	1	2	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
31	19	1	4	2	2	1	4	1	4	4	1	4	1	1	16	728	2	6	1	1	2	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	MPC
32	34	1	3	2	1	1	1	1	3	1	1	4	1	1	34	30	1	1	1	1	2	1	1	5	1	2	1	1	1	1	1	3	1	N	N	N	N	N	NO	PHY
33	30	2	4	1	1	1	1	1	1	1	1	4	1	1	28	30	1	3	1	1	2	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
34	28	1	3	2	1	1	1	1	1	2	1	4	1	1	26	20	2	1	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
35	45	1	3	0	1	1	1	1	1	2	1	4	1	1	44	365	1	1,3	7	2	2	2	3	1	1	2	1	1	1	1	1	4,5	1	N	N	N	N	N	NO	CAN
36	27	2	2	2	1	1	1	1	1	1	1	4	1	1	29	90	1	6	1	1	2	2	1	1	1	1	1	1	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
37	35	1	2	1	1	1	1	1	1	1	1	4	4	1	35	25	2	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
38	23	1	2	2	1	1	3	1	2	2	1	4	1	1	23	25	2	1	1	2	2	1	1	1	1	1	1	1	2	3	2	4,5	6	N	N	N	N	N	NO	CAN
39	35	2	3	2	1	1	1	1	1	1	1	4	1	1	35	15	2	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
40	40	1	3	2	1	1	1	2	1	1	1	4	1	1	40	20	1	8	3	2	2	1	1	2	1	2	1	1	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
41	22	1	1	2	1	1	1	1	1	1	1	4	2	1	22	30	2	1,3	1	1	2	1	1	3	2	1	1	2	2	4	1	1,2	1	N	N	N	N	N	NO	BV

SYMPTOMATIC PATIENTS

	DEMOGRAPHIC, BEHAVIOUR AND REPRODUCTIVE HISTORY														DISEASE CHARACTERISTICS & GENITAL EXAMINATION											INVESTIGATIONS											DIAGNOSIS	
serial no.	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstetric history	Symptoms in partner	Past h/o PID / infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	Gram stain	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
42	39	2	3	3	1	1	1	1	1	1	1	4	1	1	38	20	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	N	N	N	N	N	NO	PHY
43	28	1	1	1	1	1	1	1	2	2	1	4	1	1	28	7	2	1	1	1	2	2	1	3	1	1	1	1	4	2	1	1	1	N	N	N	N	N	NO	BV

SYMPTOMATIC PATIENTS

	DEMOGRAPHIC, BEHAVIOUR AND REPRODUCTIVE HISTORY														DISEASE CHARACTERISTICS & GENITAL EXAMINATION												INVESTIGATIONS										DIAGNOSIS	
serial no.	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstetric history	Symptoms in partner	Past h/o PID / infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	Gram stain	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
44	33	1	1	1	1	1	1	1	1	1	1	4	1	1	33	365	1	1	1	1	2	2	1	3	1	1	1	1	2	3	2	5	1	N	N	N	N	N	NO	CAN
45	38	1	3	3	1	1	1	1	1	1	1	4	1	1	38	20	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	N	N	N	N	N	NO	PHY
46	32	1	3	2	1	1	1	1	1	2	1	4	1	1	32	20	1	3	1	1	2	1	1	1	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
47	30	1	2	1	1	1	1	1	1	2	1	4	1	1	30	15	1	1	1	1	2	2	1	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
48	28	1	3	3	1	1	1	2	1	1	4	1	1	28	7	2	6	1	1	2	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
49	36	1	3	0	1	1	1	1	1	1	1	4	1	1	30	15	1	1	1	1	2	3	3	1	1	1	1	1	2	3	2	5	1	N	N	N	N	N	NO	CAN
50	30	2	3	0	1	1	1	1	2	3	5	3	1	1	30	60	2	3	1	1	2	2	3	4	3	1	1	2	2	2,4	1	1	1	P	P	P	N	N	YESTv/bv	TV/BV
51	26	1	3	1	1	1	1	1	2	1	1	1	1	1	26	7	1	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
52	32	1	3	0	1	1	1	1	1	1	1	4	1	1	30	15	1	1	1	1	2	3	3	1	1	1	1	1	2	3	2	5	1	N	N	N	N	N	NO	CAN
53	30	1	3	3	1	1	1	1	1	1	1	4	1	1	38	20	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	N	N	N	N	N	NO	PHY
54	25	2	2	1	1	1	1	1	1	1	1	4	1	1	24	15	2	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
55	40	1	1	5	2	2	4	2	4	3	1	3	1	1	38	7	2	1	1	1	2	3	2	4	1	2	1	1	2	2	1	1	1	P	P	N	N	N	YES	TV/BV
56	40	1	2	1	1	1	1	1	1	1	1	4	1	1	40	10	1	6	1	1	2	1	1	2	1	2	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
57	48	2	3	2	1	1	1	1	1	1	2	4	1	1	48	30	7	2	2	1	2	2	2	1	1	2	2	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
58	54	1	3	2	1	2	3	2	2	1	1	4	1	1	54	2	1	1	1	1	2	2	3	1	1	1	1	1	2	3	2	5,4	1	N	N	N	N	N	NO	CAN
59	37	1	2	2	1	1	1	3	1	1	1	4	1	1	37	15	1	8	1	1	2	1`	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	BC/PHY
60	52	1	3	2	1	1	1	1	1	1	1	4	1	1	40	7	1	1	1	2	1	1	2	1	1	2	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
61	40	1	3	1	1	1	1	1	1	1	1	4	1	1	40	14	1	6	1	1	2	1	1	1	1	1	1	1	1	1	1	11	1	N	N	N	N	N	NO	PHY
62	34	1	2	1	1	1	1	1	1	1	1	4	4	1	33	15	2	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
63	52	1	2	1	1	1	1	1	1	2	1	4	1	1	45	6m	1	1	1	1	2	2	1	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
64	40	1	3	3	1	1	1	1	1	1	1	4	1	1	40	20	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
65	34	1	4	2	1	1	1	2	2	1	1	4	1	1	33	45	1	6	1	1	2	3	1	5	3	1	1	2	1	2	1	6	1	P	P	N	N	N	NO	TV
66	49	1	2	2	1	2	3	2	1	1	3	4	1	1	40	7	2	1,3	1	1	2	2	2	4	3	1	1	2	2	2	1	4	1	P	P	P	N	N	YES	TV/MPC
67	25	1	2	2	1	1	3	1	1	1	6,3	4	1	1	24	7	1	1,7	4	2	2	2	1	5	1	1	1	1	1	1	2	5	1	N	N	N	N	P	NO	SY2/CAN
68	20	1	2	1	2	2	4	1	4	4	6	4	1	1	19	60	2	3	1	1	1	1	1	2	1	2	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
69	26	1	3	1	1	3	1	2	3	1	4	1	1	1	26	90	2	1	1	2	1	1	1	5	1	1	1	2	2	2,4	1	1	1	P	P	P	N	N	NO	TV/BV
70	50	2	2	2	1	1	1	1	1	1	1	4	1	1	50	30	1	1,2	2	1	2	1	1	3	2	1	1	2	2	4	1	1	1	N	N	N	N	P	NO	BV/SY
71	55	1	3	2	1	1	1	1	1	1	1	4	1	1	55	7	1	6	1	1	2	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
72	39	1	2	1	1	1	1	1	1	1	1	4	1	1	39	14	1	6	1	1	2	1	1	6	1	2	1	1	1	1	1	4,3	1	N	N	N	N	N	NO	MPC
73	35	1	3	1	1	1	1	1	1	1	1	4	1	1	34	15	1	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
74	28	2	2	0	1	1	1	1	1	1	1	4	1	1	27	6	2	1	1	2	2	2	1	3	2	1	1	2	2	4	1	1,4	1	N	N	N	N	N	NO	MPC/BV
75	36	1	3	2	1	1	1	1	1	1	1	4	1	1	36	30	1	6	1	1	2	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
76	29	1	4	1	1	1	1	1	1	1	1	4	1	1	29	7	1	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
77	22	1	2	2	1	1	1	1	1	1	1	4	1	1	22	15	1	1	1	1	2	2	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
78	30	1	4	1	1	1	1	1	1	1	1	4	2	1	30	7	1	1	1	1	2	1	1	6	1	2	1	1	1	1	1	4	1	N	N	N	N	N	NO	MPC
79	34	1	3	2	1	1	1	1	1	4	6	4	1	1	30	1y	2	1,3	3	1	2	2	2	3	3	5	1	2	2	1	1	3.4	1	N	N	N	P	N	NO	VERRUCOUS HSV/HIV
80	28	1	4	0	1	1	1	1	1	1	1	4	1	1	28	15	1	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
81	30	1	4	1	1	1	1	1	1	1	1	4	1	1	30	30	1	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
82	39	1	2	2	1	1	1	1	1	1	1	4	1	1	39	7	1	1	1	1	2	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
83	34	2	3	2	1	1	1	1	1	1	6	4	1	1	34	60	1	6	2	1	2	2	1	2	2	1	1	2	2	4	2	1	1	N	N	N	P	N	NO	BV/HIV
84	22	1	3	2	1	1	1	1	3	4	1	4	1	1	22	25	1	6	1	1	2	1	1	2	1	1	1	1	1	1	2	6	1	N	N	N	N	N	NO	PHY

SYMPTOMATIC PATIENTS

	DEMOGRAPHIC, BEHAVIOUR AND REPRODUCTIVE HISTORY														DISEASE CHARACTERISTICS & GENITAL EXAMINATION												INVESTIGATIONS										DIAGNOSIS	
serial no.	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstetric history	Symptoms in partner	Past h/o PID / infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	Gram stain	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
85	31	1	3	2	1	1	1	1	3	1	1	4	1	1	31	15	1	6	1	1	2	3	1	2	2	1	1	2	1	4	2	1	1	N	N	N	N	N	NO	BV
86	43	1	2	1	1	1	1	1	1	1	1	4	1	1	43	25	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	N	N	N	N	N	NO	PHY

SYMPTOMATIC PATIENTS

	DEMOGRAPHIC, BEHAVIOUR AND REPRODUCTIVE HISTORY														DISEASE CHARACTERISTICS & GENITAL EXAMINATION												INVESTIGATIONS										DIAGNOSIS	
serial no.	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstetric history	Symptoms in partner	Past h/o PID / infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	Gram stain	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
87	45	1	3	1	1	1	1	1	1	1	1	4	1	1	45	7	1	6	1	1	2	1	1	1	1	1	1	1	1	3	2	5	1	N	N	N	N	N	NO	CAN
88	28	1	2	1	1	1	1	1	1	1	1	4	1	1	28	14	1	1	1	1	2	3	1	6	3	2	1	1	1	1	1	4,3	1	N	N	N	N	N	NO	MPC
89	38	1	2	2	1	1	1	1	1	1	1	4	1	1	37	15	1	1	1	1	2	2	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
90	25	1	3	1	1	1	1	1	1	1	1	4	1	1	20	30	1	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
91	23	1	4	3	1	1	1	1	1	1	1	4	1	1	19	3m	1	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
92	20	1	3	2	1	1	1	1	1	1	1	4	1	1	20	25	1	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
93	22	1	4	1	1	1	1	1	2	2	1	4	1	1	22	10	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
94	40	2	3	1	1	1	1	1	2	2	1	4	1	1	40	1m	1	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
95	28	1	3	2	1	1	1	1	3	1	1	4	1	1	28	15	1	1,2	1	1	2	3	1	2	2	1	1	2	2	4	2	1	1	N	N	N	N	N	NO	BV
96	18	1	4	1	1	1	1	1	2	2	1	4	1	1	18	15	1	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
97	24	1	4	1	1	1	1	1	2	2	1	4	1	1	24	1m	1	1	1	1	2	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
98	40	1	3	2	1	1	1	1	3	1	1	4	1	1	40	15	1	1,2	1	1	2	3	1	2	2	1	1	2	2	4	2	1	1	N	N	N	N	N	NO	BV
99	55	1	3	3	1	1	1	1	2	1	1	4	1	1	55	3m	1	1	1	1	2	2	2	1	1	1	1	1	1	3	2	6	1	N	N	N	N	N	NO	CAN
100	20	1	3	1	1	1	1	1	2	2	1	4	1	1	35	5m	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
101	39	1	3	1	1	1	1	1	2	2	1	4	1	1	35	5m	1	1	1	1	2	21	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
102	30	1	2	1	1	1	3	1	2	1	1	4	1	1	30	25	1	1,2	1	1	2	1	3	1	1	1	1	1	2	3	2	5	1	N	N	N	N	N	NO	CAN
103	40	1	3	1	1	1	3	1	1	1	2	4	1	1	40	1m	1	1	1	1	1	3	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
104	26	1	4	2	1	1	1	1	3	1	1	4	1	1	26	30	1	6	1	1	2	1	2	4	3	2	1	2	2	1	1	6	1	N	N	N	N	N	NO	PHY
105	28	1	4	2	1	1	1	1	1	1	1	4	1	1	28	45	1	6	1	1	2	3	1	5	3	1	1	2	1	2	1	6	2	P	P	P	N	N	NO	TV
106	28	1	4	1	1	1	1	1	1	1	1	4	1	1	26	2y	2	1,3	1	1	2	2	2	5	1	1	1	2	1	2	1	4	1	P	P	P	N	N	YES	TV/MPC
107	40	1	3	2	1	1	1	1	1	1	1	4	1	1	40	5	1	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
108	41	1	3	2	1	1	3	1	1	2	1	4	1	1	40	20	1	1,3	1	1	2	2	1	4	1	1	1	1	1	2	1	2	2	P	P	N	N	N	YES	TV/MPC
109	28	1	3	2	1	1	1	3	1	1	2	1	4	1	28	14	1	7	1	2	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	HERPES
110	40	1	3	1	1	1	3	1	1	1	5	3	1	1	39	1y	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	P	P	N	N	N	NO	TV
111	37	1	3	1	1	1	1	1	2	2	1	4	1	0	35	5m	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
112	48	2	3	5	1	1	1	1	1	1	1	3	1	1	40	365	1	3	1	1	1	1	2	3	1	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
113	35	1	3	1	1	1	2	1	1	1	1	4	1	0	35	14	2	3	2	1	2	2	2	4	1	1	1	2	1	1	1	1	1	P	P	P	N	N	YES	TV/BV
114	45	1	3	1	1	1	1	1	1	1	1	1	1	1	45	60	1	3	1	1	1	2	1	5	1	1	2	1	1	1	1	4	1	N	N	N	N	N	NO	MPC
115	44	1	3	1	1	1	1	1	1	1	7	4	1	1	44	6m	2	1	1	1	2	2	2	1	2	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
116	50	2	4	1	1	2	1	2	1	1	6	4	1	1	50	90	1	1,5	2	1	2	1	2	1	3	2	2	1	1	1	1	4,3	7	N	N	N	N	N	NO	CACERVIX
117	40	1	4	0	1	1	3	1	4	4	3	2	1	1	30	30	2	8	1	1	1	2	2	4	1	1	1	2	2	2	1	4	2	P	P	P	N	N	YES	TV/MPC
118	38	1	3	1	1	1	1	1	1	2	1	4	1	1	38	1m	1	1,3	1	2	2	2	1	6	2	1	1	1	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
119	35	1	3	1	1	1	1	1	2	2	1	4	1	0	35	5m	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
120	20	1	2	2	1	1	1	1	1	2	1	4	1	1	20	3y	1	6	1	1	1	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
121	26	2	3	1	1	1	1	1	2	2	1	4	1	0	35	5m	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
122	55	1	3	0	1	1	1	1	1	1	1	4	1	1	55	1m	1	2	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
123	30	1	2	1	1	1	3	1	1	4	1	4	1	1	30	15	1	1	1	1	2	3	2	3	1	1	1	2	2	4	2	6	1	N	N	N	N	N	NO	BV
124	21	1	4	2	1	2	2	4	2	4	4	1	4	1	18	60	2	1,3	1	1	2	2	2	4	1	1	1	2	2	1	3	1	2	P	P	N	N	N	YES	TV/BV
125	45	1	2	1	1	1	3	1	2	1	1	4	1	1	52	1	1	1,2	1	1	2	1	3	1	1	1	1	1	2	4	2	5	1	N	N	N	N	N	NO	CAN
126	17	1	4	2	2	2	4	2	4	4	1	4	1	1	16	365	2	6	1	1	2	3	2	4	1	5	1	2	2	2	1	1,3	1	P	P	P	N	N	NO	TV
127	32	1	3	2	1	1	1	1	1	1	7	4	1	1	33	5y	1	3	1	1	2	2	1	5	1	2	1	1	1	1	1	3,4	1	N	N	N	N	N	NO	MPC

SYMPTOMATIC PATIENTS

	DEMOGRAPHIC, BEHAVIOUR AND REPRODUCTIVE HISTORY														DISEASE CHARACTERISTICS & GENITAL EXAMINATION												INVESTIGATIONS											DIAGNOSIS	
serial no.	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstetric history	Symptoms in partner	Past h/o PID / infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	Gram stain	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
128	38	1	3	1	1	1	1	1	1	2	1	4	1	1	33	2y	12	1	1	2	2	1	2	6	2	1	1	1	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
129	38	2	3	1	1	1	3	1	1	2	1	4	2	1	37	5	1	1,3	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV

SYMPTOMATIC PATIENTS

	DEMOGRAPHIC, BEHAVIOUR AND REPRODUCTIVE HISTORY														DISEASE CHARACTERISTICS & GENITAL EXAMINATION												INVESTIGATIONS										DIAGNOSIS	
serial no.	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstetric history	Symptoms in partner	Past h/o PID / infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	Gram stain	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
130	39	1	3	2	1	2	2	1	1	2	2	4	1	1	39	7	2	2,3	1	1	2	2	1	6	1	1	1	2	2	2	2	6	2	P	P	P	N	N	NO	TV
131	32	1	2	1	1	1	3	1	1	4	1	4	1	1	32	15	1	1	3	1	2	3	2	3	1	1	1	2	2	4	2	6	1	N	N	N	N	N	NO	BV
132	28	1	4	1	2	2	4	2	4	4	1	4	1	1	28	6m	2	6	1	1	2	3	2	4	1	5	1	2	2	2	1	1,3	1	P	P	P	N	N	NO	TV
133	39	1	2	1	1	1	3	1	1	4	1	4	1	1	39	1m	1	1	1	1	2	3	2	3	1	1	1	2	2	4	2	6	1	N	N	N	N	N	NO	BV
134	36	2	3	1	1	1	1	2	2	1	4	1	0		36	3m	1	1	1	1	2	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
135	42	1	2	1	1	1	3	1	1	4	1	4	1	1	40	1y	1	1	1	1	2	3	2	3	1	1	1	2	2	4	2	6	1	N	N	N	N	N	NO	BV
136	50	2	3	2	1	1	1	1	1	2	1	4	1	1	48	2y	1	3	1	1	2	3	1	3	1	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
137	19	2	3	1	1	1	3	1	1	2	1	4	2	1	16	5	1	1,3	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
138	25	1	3	1	1	1	4	1	1	1	1	4	1	1	24	30	1	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
139	23	1	4	1	1	1	3	1	1	2	1	4	2	1	20	30	1	1	1	1	2	3	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
140	37	2	2	2	1	2	1	1	1	1	4	1	1	1	37	60	1	1	2	2	1	2	2	2	2	1	1	1	2	1	1	1	1	N	N	N	N	N	NO	BV
141	32	1	4	2	1	2	2	4	2	4	4	1	4	1	32	60	2	1,3	1	1	2	2	2	4	1	1	1	2	2	1	3	1	1	p	p	N	N	N	YES	TV/BV
142	30	1	4	1	2	2	4	2	4	4	1	4	1	1	29	365	2	6	1	1	2	3	2	4	1	5	1	2	2	2	1	1,3	1	p	p	p	N	N	NO	TV
143	46	1	3	1	1	1	4	1	1	1	1	4	1	1	45	30	1	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
144	28	1	3	2	1	1	1	1	1	1	1	4	1	1	16	8y	1	3	1	1	2	1	1	5	1	2	2	2	1	1	1	3	1	N	N	N	N	N	NO	MPC
145	20	1	3	3	1	1	1	1	1	1	1	4	1	1	60	7	1	8	1	1	2	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
146	26	1	3	2	1	1	1	1	1	4	6	4	1	1	23	3y	2	3,2	1	1	2	2	1	2	1	1	1	1	1	1	2	3,4	1	N	N	N	N	N	NO	MPC
147	28	1	2	1	1	1	1	1	2	1	1	4	1	1	28	90	1	3,2	1	1	2	2	2	5	2	2	1	1	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
148	45	2	3	1	1	1	1	2	6	4	4	1	1	1	45	10	1	3	1	1	2	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	LAP
149	50	2	3	1	1	1	3	1	1	1	1	4	1	1	50	90	1	3	1	1	2	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
150	28	2	3	2	1	1	1	1	1	2	4	4	1	1	28	3m	1	6	1	1	2	1	1	5	1	2	1	2	2	1	1	1	1	N	N	N	N	N	NO	MPC
151	28	1	4	1	2	2	4	2	4	4	1	4	1	1	28	20	2	1	1	1	2	3	2	6	1	5	1	2	2	2	1	1,3	1	P	P	P	N	N	NO	TV
152	50	1	2	0	1	1	1	1	1	1	1	4	1	1	48	27	1	1,3	3	1	2	2	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV/BC
153	29	2	2	2	1	1	1	1	1	1	1	4	1	1	28	10	1	1.3	1	1	2	1	1	5	1	2	1	2	1	4	1	1,3	1	N	N	N	N	N	NO	BV/MPC
154	29	1	2	1	1	1	1	1	1	1	1	4	1	1	18	80	2	1,2	1	1	2	2	2	4	3	2	2	2	2	2,4	1	4,3	1	P	P	N	N	N	YES	TV/MPC/HSV
155	45	1	4	0	1	1	1	1	2	1	1	4	1	1	52	7	1	1	1	2	1	1	1	1	1	1	1	1	2	3	2	3	1	N	N	N	N	N	NO	CAN
156	40	1	2	1	1	1	3	1	1	4	1	4	1	1	39	1y	1	1	1	1	2	2	1	2	1	1	1	2	3	2	2	6	1	N	N	N	N	N	NO	CAN
157	26	2	2	1	1	1	1	1	2	2	6	4	1	1	26	60	2	8	1	1	2	2	1	4	2	1	1	2	1	4	1	1	1	N	N	N	N	N	NO	BV/WART
158	22	2	2	1	1	1	1	1	2	3	1	4	1	1	22	3	2	1.2	1	1	2	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	P	N	NO	HIV
159	42	2	2	1	1	1	1	1	1	1	1	4	1	1	42	10y	1	2	1	1	2	2	1	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
160	30	1	1	2	1	1	1	1	1	2	1	4	1	0	30	6m	1	2	1	12	2	1	1	1	1	1	2	2	2	1	1	1	1	n	N	N	N	N	NO	BV
161	37	2	3	1	1	1	3	1	1	2	1	4	2	1	37	5	1	1,3	1	1	2	2	1	1	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
162	52	1	2	1	1	1	3	1	2	1	1	4	1	1	52	1	1	1,2	1	1	2	1	3	1	1	1	1	1	2	4	2	5	1	N	N	N	N	N	NO	CAN
163	30	2	3	2	1	1	3	1	1	1	1	4	1	1	30	10	2	1	1	1	2	2	2	1	1	1	1	1	2	4	2	5	1	N	N	N	N	N	NO	CAN
164	28	1	3	2	1	1	1	1	2	2	1	4	1	1	30	14	1	3	1	1	2	1	1	6`	1	1	2	1	1	1	1	6	1	N	N	N	N	N	NO	NV
165	18	1	2	2	2	1	1	1	2	2	1	4	1	0	16	2y	1	1	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
166	28	2	4	3	1	1	1	1	1	1	1	4	1	1	28	1m	1	6	1	1	2	3	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
167	23	2	4	1	1	1	1	1	1	1	7	4	1	1	23	14	1	3	1	1	2	2	2	5	1	2	1	2	1	4	1	1,3	1	N	N	N	N	N	NO	BV/MPC
168	45	1	3	0	1	1	1	1	1	1	1	4	1	1	45	30	2	1	1	1	1	1	1	5	1	1	1	1	1	1	1	2	1	N	N	N	N	N	NO	others
169	21	1	3	2	1	1	1	1	1	1	1	4	1	1	21	10	1	1,3	1	1	2	1	1	5	1	2	1	2	1	4	1	1,3	1	N	N	N	N	N	NO	BV/MPC
170	43	1	3	2	1	1	1	1	1	1	7	4	1	1	43	7	1	1	1	1	2	2	1	6	4	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	GENITAL SCABIES

SYMPTOMATIC PATIENTS

	DEMOGRAPHIC, BEHAVIOUR AND REPRODUCTIVE HISTORY														DISEASE CHARACTERISTICS & GENITAL EXAMINATION												INVESTIGATIONS										DIAGNOSIS	
serial no.	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstetric history	Symptoms in partner	Past h/o PID / infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	Gram stain	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
171	38	1	3	2	1	1	1	1	1	1	1	4	1	1	35	30	1	1,3	1	1	2	3	1	5	3	1	1	2	1	2	1	6	1	P	P	P	N	N	NO	TV
172	24	1	4	2	1	1	1	1	1	1	1	4	1	1	24	1m	1	1	1	1	2	2	1	6	3	1	1	2	1	1	1	6	2	P	P	P	N	N	NO	TV/CAN

SYMPTOMATIC PATIENTS

	DEMOGRAPHIC, BEHAVIOUR AND REPRODUCTIVE HISTORY														DISEASE CHARACTERISTICS & GENITAL EXAMINATION												INVESTIGATIONS										DIAGNOSIS	
serial no.	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstetric history	Symptoms in partner	Past h/o PID / infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	Gram stain	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
173	40	1	3	3	1	1	1	1	1	1	1	4	1	1	38	2y	1	6	1	1	2	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	others
174	53	1	4	2	1	1	1	1	1	1	1	4	1	1	52	5m	2	1	1	1	1	3	1	5	1	1	1	1	1	1	1	2,3	1	N	N	N	N	N	NO	others
175	39	1	3	2	1	1	1	1	1	1	1	4	1	1	38	2y	1	3	1	1	1	2	2	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PID
176	30	2	4	3	1	1	1	1	1	1	7	4	1	1	30	3m	1	6	1	1	2	3	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
177	32	2	2	1	1	1	3	1	2	1	1	4	1	1	32	15	1	1,2	1	1	2	1	1	1	1	1	1	2	3	2	5	1	N	N	N	N	N	NO	CAN
178	55	1	4	3	1	1	1	1	1	1	1	4	1	1	55	7	1	6	1	1	2	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
179	39	1	3	1	1	1	1	1	3	1	7	4	1	1	39	..	1	2,3	1	1	2	1	1	5	1	1	1	1	1	1	1	3	1	N	N	N	N	N	NO	others
180	28	2	4	2	1	1	3	1	1	1	2	4	1	1	27	15	1	2	1	1	1	3	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
181	28	2	3	2	1	2	4	2	4	4	1	4	1	1	25	6m	2	6	1	1	2	3	2	4	1	5	1	2	2	2	1	1,3	1	P	P	P	N	N	NO	TV
182	24	1	4	3	1	1	1	1	1	1	7	4	1	1	19	3m	1	6	1	1	2	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
183	28	1	4	2	1	1	3	1	1	1	2	4	1	1	37	2m	1	3,2	1	1	2	3	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
184	18	1	3	2	2	1	4	2	4	4	7	4	1	1	18	1w	1	2,3	1	1	2	1	1	6	1	1	1	1	1	1	1	1	1	N	N	N	N	N	NO	others
185	55	2	3	1	1	1	2	1	1	2	1	3	1	1	50	1m	1	2.5	1	1	2	2	2	5	1	1	1	1	1	1	1	1	3	N	N	N	N	N	NO	CA CERVIX
186	19	1	3	2	1	1	1	1	1	1	1	4	1	1	19	20	1	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
187	22	1	4	3	1	1	1	1	1	1	1	4	1	1	21	2M	1	1	1	1	2	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
188	44	1	4	0	1	1	1	1	1	1	1	4	1	1	44	15	1	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
189	28	1	3	1	1	1	1	1	1	2	3	1	1	27	1y	2	4	1	1	2	2	1	1	1	1	1	1	1	1	1	4	1	N	N	N	N	N	NO	HERPES/CAN
190	37	1	4	2	1	1	3	1	1	1	2	4	1	1	37	15	1	1	1	1	1	3	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
191	28	1	2	3	2	1	1	1	1	1	1	4	1	1	28	3m	10	1	1,3	1	1	2	1	1	5	1	2	1	2	1	4	1	1,3	N	N	N	N	N	NO	BV/MPC
192	29	1	4	2	2	2	4	2	4	4	2	4	1	1	16	365	2	6	1	1	2	3	2	4	1	5	1	2	2	2	1	1,3	1	P	P	P	N	N	NO	TV
193	28	1	3	2	1	1	1	1	1	1	7	4	1	1	28	2M	1	1	1	1	2	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
194	27	1	2	2	1	1	1	1	1	1	1	4	1	1	27	90	1	6	1	1	2	2	1	1	1	1	1	1	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
195	24	1	3	2	1	2	3	2	4,2	1	1	4	1	1	24	2m	1	1	1	1	2	2	3	1	1	1	1	1	2	3	2	5,3	1	N	N	N	N	N	NO	CAN
196	25	1	3	2	1	1	3	1	1	1	7	4	1	1	25	3m	1	1	1	1	1	3	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
197	27	1	3	0	1	1	1	1	1	1	7	4	1	1	26	1Y	1	3	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
198	36	2	3	2	1	1	1	1	1	1	1	4	1	1	33	3y	1	1,2	1	1	2	1	1	2	1	1	1	1	1	1	2	1	N	N	N	N	N	NO	others
199	55	1	4	1	1	2	1	2	1	1	6	4	1	1	55	1m	1	1,5	1	1	2	1	2	1	3	2	2	1	1	1	1	4,3	7	N	N	N	N	N	NO	CA CERVIX
200	55	1	3	2	1	1	3	1	1	1	7	4	1	1	55	14	1	3	1	1	1	3	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	NV
201	31	1	4	1	1	1	1	1	1	1	7	4	1	1	31	1m	2	1,3	1	1	2	1	1	2	1	1	1	1	1	1	1	2	1	N	N	N	N	N	NO	LAP
202	37	1	3	2	1	1	1	1	1	1	7	4	1	1	33	3y	1	1,2	1	1	2	1	1	2	1	1	1	1	1	1	1	2	1	N	N	N	N	N	NO	others
203	50	1	4	2	1	1	3	1	1	1	2	4	1	1	55	3m	1	1	1	1	1	3	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
204	27	1	2	2	2	1	1	1	2	2	1	4	1	0	26	1y	1	1	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
205	49	1	4	1	1	2	1	2	1	1	6	4	1	1	15	5y	1	1,5	1	1	2	1	2	1	3	2	2	1	1	1	1	3	7	N	N	N	N	N	NO	CA CERVIX
206	45	1	3	2	1	1	1	1	1	1	7	4	1	1	45	15	1	1,3	1	1	2	2	1	5	1	1	1	1	1	1	1	2	1	N	N	N	N	N	NO	LAP
207	36	1	4	2	1	1	1	1	2	2	1	4	1	0	35	1y	1	8	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	MC
208	54	1	2	2	1	1	3	1	2	2	1	4	1	1	54	..	2	1	1	2	2	1	1	1	1	1	1	1	2	3	2	4,5	6	N	N	N	N	N	NO	CAN
209	38	2	3	2	1	1	1	1	1	1	7	4	1	1	38	5m	1	1,3	1	1	2	2	1	5	1	1	1	1	1	1	1	2	1	N	N	N	N	N	NO	LAP
210	39	1	3	1	1	1	1	1	1	1	1	4	1	1	39	1OY	1	6	1	1	2	3	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
211	37	1	3	0	1	1	1	1	1	1	1	4	1	1	37	3M	1	1	1	1	2	3	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
212	26	1	3	1	1	1	1	1	1	1	1	4	1	1	26	20	1	6	1	1	2	3	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
213	45	1	2	2	1	1	1	1	1	1	1	4	1	1	45	90	1	6	1	1	2	2	1	1	1	1	1	1	1	1	1	3,4	1	N	N	N	N	N	NO	MPC

SYMPTOMATIC PATIENTS

	DEMOGRAPHIC, BEHAVIOUR AND REPRODUCTIVE HISTORY														DISEASE CHARACTERISTICS & GENITAL EXAMINATION												INVESTIGATIONS										DIAGNOSIS	
serial no.	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstetric history	Symptoms in partner	Past h/o PID / infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	Gram stain	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
214	42	1	3	1	1	1	1	1	1	1	6	3	1	1	42	3m	1	7	4	2	2	1	1	6	1	1	1	1	1	1	1	3	1	N	N	N	N	N	NO	HERPES
215	22	1	3	2	1	1	1	1	1	1	6	4	1	1	21	4m	1	8	3	1	2	1	1	5	1	1	1	1	1	3	2	3	1	N	N	N	N	N	NO	WART/CAN

SYMPTOMATIC PATIENTS

	DEMOGRAPHIC, BEHAVIOUR AND REPRODUCTIVE HISTORY														DISEASE CHARACTERISTICS & GENITAL EXAMINATION												INVESTIGATIONS										DIAGNOSIS	
serial no.	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstetric history	Symptoms in partner	Past h/o PID / infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	Gram stain	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
216	35	1	4	1	1	1	2	1	3	1	1	4	1	1	35	25	2	1	1	1	2	2	2	6	3	1	1	1	1	1	1	6	1	P	P	P	N	N	NO	TV
217	26	1	4	2	1	1	1	1	1	1	1	3	1	1	26	5	1	2,3	1	2	2	2	1	1	1	1	1	1	1	1	1	3	1	N	N	N	N	N	NO	HERPES/CAN
218	28	1	2	2	2	1	1	1	2	2	1	4	1	0	26	1y	1	1	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
219	19	1	3	1	1	1	1	1	3	1	1	4	1	1	18	2y	1	2,1	1	1	1	1	1	3	2	1	1	2	2	3	2	1,4	1	N	N	N	N	N	NO	BV/CAN
220	35	1	4	0	1	1	1	1	3	1	7	4	1	1	35	2m	2	1	1	1	1	3	2	4	3	1	1	1	1	2	1	3,4	1	P	P	P	N	N	YES	TV/MPC
221	52	1	4	1	1	2	2	2	1	1	6	4	1	1	50	15	1	5	1	1	2	1	2	1	3	2	2	1	1	1	1	3	7	N	N	N	N	N	NO	CA CERVIX IIIA
222	30	2	3	2	1	1	1	1	1	1	1	4	1	1	30	20	1	1,2	1	1	2	3	1	6	1	1	1	1	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
223	20	1	3	2	2	1	4	1	4	4	1	4	1	1	20	7	2	1,	1	1	2	1	1	2	1	5	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
224	18	1	4	2	1	1	3	1	1	1	2	4	1	1	37	2m	1	3,2	1	1	2	3	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV/CAN
225	35	1	3	1	1	1	2	1	3	4	1	2	1	1	35	7	1	3	1	1	2	2	1	5	1	1	1	1	1	1	1	1	1	N	N	N	N	N	NO	HEPB/NV
226	25	1	3	2	1	1	4	1	4	4	1	4	1	1	25	30	2	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
227	27	1	3	2	1	1	4	1	4	4	1	4	1	1	26	7	2	6	1	1	2	1	1	6	1	1	1	1	1	1	1	3	1	N	N	N	N	N	NO	NV
228	54	2	3	2	1	1	4	1	4	4	1	4	1	1	54	20	2	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
229	24	1	4	1	1	1	3	1	2	3	1	4	1	1	23	2m	1	1	1	1	2	2	2	6	1	1	1	1	2	1	1	2	1	P	P	P	N	N	NO	TV
230	45	1	4	2	1	1	4	1	4	4	1	4	1	1	45	30	2	6	1	1	2	1	1	2	1	1	1	1	1	1	1	3	1	N	N	N	N	N	NO	NV
231	32	1	3	2	1	1	4	1	4	4	1	4	1	1	32	15	2	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
232	29	1	2	2	1	1	1	1	1	1	1	4	1	1	29	45	1	1,3	1	1	2	2	1	6	1	2	1	1	1	1	1	6	1	N	N	N	N	N	NO	MPC
233	20	2	3	2	2	1	4	1	4	4	1	4	1	1	20	5	2	6	1	1	2	1	1	2	1	5	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
234	28	1	4	1	1	1	3	1	1	1	2	4	1	1	28	30	1	3	1	1	2	3	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
235	45	2	2	0	1	1	1	1	1	1	1	4	1	1	45	3y	2	3	1	1	2	1	1	2	1	2	1	1	1	3	1	3,4	1	N	N	N	N	N	NO	VVC/MPC
236	26	1	4	1	1	1	3	1	1	1	2	4	1	1	37	2m	1	3,2	1	1	2	3	2	3	2	2	1	2	2	4	1	1	1	N	N	N	N	N	NO	MC/BV
237	45	1	3	2	1	1	1	1	1	1	1	4	1	1	42	2y	1	1	1	1	2	1	1	4	1	1	1	1	1	1	1	3	1	N	N	N	N	N	NO	others
238	50	2	4	2	1	2	1	1	1	1	1	4	1	1	50	9o	1	1,3	1	1	2	2	1	5	1	2	1	1	1	1	1	4	1	N	N	N	N	N	NO	MPC
239	42	1	2	3	1	2	1	1	1	1	1	4	1	1	42	60	2	1,2	1	1	2	3	1	5	1	2	1	1	1	1	1	4	1	N	N	N	N	N	NO	MPC
240	28	1	3	2	1	1	1	1	1	1	1	4	1	1	27	1yr	2	6	1	1	2	1	2	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
241	20	1	4	1	1	2	2	1	2	6	1	4	1	1	18	2y	2	3,1,5	1	1	2	3	1	3	2	1	1	2	2	4	1	3,4	1	N	N	N	N	N	NO	HIV/BV
242	35	1	2	2	1	1	1	1	1	1	1	4	1	1	34	1y	2	3	1	1	2	2	1	5	1	2	1	1	1	1	1	4	1	N	N	N	N	N	NO	MPC
243	45	1	3	1	1	2	1	1	1	1	1	4	1	1	45	10	1	6	1	1	2	1	2	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
244	40	1	3	1	1	1	1	1	1	1	1	4	1	1	35	5yr	2	3	1	1	2	2	1	5	1	3	1	1	1	1	1	3	1	N	N	N	N	N	NO	CERVICAL GROWTH
245	20	1	4	0	1	1	1	1	1	1	1	4	1	1	20	4m	1	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
246	32	1	2	2	2	2	2	1	2	2	1	4	1	1	32	6m	2	2,3	1	1	2	2	2	6	3	1	1	2	2	1	1	4	1	P	P	N	N	N	YES	TV/MPC
247	42	1	4	0	1	1	1	1	1	1	1	4	1	1	42	9m	1	1,3	1	1	2	2	1	5	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	MPC/LAP
248	30	1	3	1	1	1	1	1	1	1	1	4	1	1	28	2y	1	1,2	1	1	2	1	1	5	1	1	1	1	2	3	2	3	1	N	N	N	N	N	NO	HIV/CAN
249	30	1	2	2	1	1	1	1	1	1	1	4	1	1	30	1y	1	6	1	1	2	2	1	6	1	1	1	1	1	1	1	3	1	N	N	N	N	N	NO	NV
250	24	1	4	1	1	1	3	1	1	1	2	4	1	1	23	8m	1	8	1	1	2	3	2	3	3	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV/WART

ASYMPTOMATIC PATIENTS

	MOGRAPHIC, BEHAVIOUR AND REPRODUCTIVE HISTO													DISEASE CHARACTERISTICS & GENITAL EXAMINATION											INVESTIGATIONS										DIAGNOSIS	
serialno	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstretic history	Symptoms in partner	Past h/o PID/infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	grams staim of cervical dx	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
1	42	1	2	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	1	1	2	1	1	5	1	2	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
2	28	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	CAN
3	20	1	4	1	1	1	1	1	3	1	7	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
4	28	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
5	40	1	2	2	1	1	3	1	1	1	7	4	1	1	0	0	0	6	1	1	2	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
6	46	1	3	1	1	1	1	1	1	1	1	4	1	1	0	0	0	6	1	1	2	2	1	3	1	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
7	32	1	3	1	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
8	22	1	2	2	1	1	1	1	3	4	1	4	1	1	0	0	0	6	1	1	2	1	1	5	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	NV
9	30	1	2	1	1	1	1	1	1	2	7	4	1	1	0	0	0	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
10	50	1	3	2	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	1	1	6	1	5	1	1	1	3	2	5	1	N	N	N	N	N	NO	CAN
11	37	1	2	1	2	1	1	1	1	4	7	5	1	1	0	0	0	6	1	1	2	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	P	N	NO	HIV+
12	35	1	3	2	1	1	3	1	1	2	1	4	1	1	0	0	0	6	1	1	2	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
13	38	1	3	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
14	22	1	4	1	1	1	3	1	3	2	1	4	1	1	0	0	0	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
15	30	2	4	1	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
16	45	1	4	1	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
17	52	1	4	1	3	1	3	1	1	1	7	4	1	1	0	0	0	6	1	1	1	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
18	29	1	2	2	1	1	1	1	3	4	7	1	4	1	0	0	0	6	1	1	1	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
19	45	1	4	2	1	1	1	1	1	1	1	4	1	1	0	0	0	6	1	1	1	2	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
20	50	1	3	1	1	1	3	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	1	1	1	1	1	2	3	2	5	1	N	N	N	N	N	NO	CAN
21	32	2	3	1	1	1	1	1	2	1	7	4	1	1	0	0	0	6	1	1	1	2	1	1	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
22	23	1	4	2	1	1	1	1	2	2	7	4	1	1	0	0	0	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
23	42	1	4	2	1	1	1	1	1	1	1	4	1	1	0	0	0	6	1	1	2	1	1	6	1	1	1	1	1	3	1	6	1	N	N	N	N	N	NO	NV
24	45	1	2	1	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	1	1	1	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
25	47	1	2	1	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	1	1	6	4	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
26	40	1	3	1	1	1	1	1	1	1	2	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
27	39	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	2	1	5	4	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
28	33	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC

serialno	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstretic history	Symptoms in partner	Past h/o PID/infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	grams staim of cervical dx	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
29	24	1	3	1	1	1	1	1	3	2	7	4	1	1	0	0	0	6	1	1	2	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
30	26	1	2	1	1	1	1	1	1	1	1	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	2	1	1	1	2	1	N	N	N	N	N	NO	others
31	35	1	3	2	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	1	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
32	48	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
33	29	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
34	32	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
35	45	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	5	1	N	N	N	N	N	NO	CAN
36	32	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
37	29	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
38	45	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	HIV+
39	53	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
40	46	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
41	40	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
42	38	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	others
43	23	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
44	32	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
45	32	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
46	27	1	3	1	1	1	1	1	1	1	7	4	1	1	0	0	0	3	1	1	2	2	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
47	28	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
48	42	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
49	35	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	others
50	18	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
51	45	1	3	1	1	1	1	1	3	1	7	4	1	1	0	0	0	6	1	1	1	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
52	50	1	4	0	3	2	4	2	1	1	7	4	1	2	0	0	0	6	1	1	2	1	1	6	1	1	1	2	2	1	1	4	2	p	p	p	n	n	NO	TV/BV
53	32	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	BV/MPC
54	35	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
55	36	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
56	24	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
57	55	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	CAN
58	55	1	4	0	1	1	1	1	1	1	1	4	1	1	0	0	0	6	1	1	1	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV

serialno	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstretic history	Symptoms in partner	Past h/o PID/infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	grams staim of cervical dx	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
59	39	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
60	26	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
61	27	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	5	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
62	37	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
63	30	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	3	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV/CONTACT SY2
64	37	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
65	45	1	3	2	1	1	3	1	1	1	1	4	1	1	0	0	0	6	1	1	2	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
66	28	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
67	52	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
68	38	1	2	2	1	1	3	2	3	1	1	4	1	1	0	0	0	6	1	1	2	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
69	33	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	others
70	45	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	3	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
71	26	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
72	25	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
73	50	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
74	25	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	5	1	N	N	N	N	N	NO	CAN
75	40	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	5	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	CAN
76	38	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
77	42	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
78	25	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
79	36	1	3	2	1	1	1	1	2	2	7	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	CAN
80	35	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
81	32	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	others
82	46	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	0thers
83	45	1	3	0	1	1	3	2	3	1	1	4	1	1	0	0	0	6	1	1	2	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
84	38	2	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	CAN
85	24	1	4	2	1	1	1	2	2	1	1	4	1	1	0	0	0	6	1	1	2	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
86	45	1	2	0	1	1	3	2	1	1	1	4	1	1	0	0	0	6	1	1	1	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
87	20	1	3	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	PHY
88	34	1	3	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	PHY

serialno	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstretic history	Symptoms in partner	Past h/o PID/infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	grams staim of cervical dx	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
89	25	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
90	45	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
91	19	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
92	48	1	3	1	1	1	1	1	1	1	7	4	1	1	0	0	0	3	1	1	2	2	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
93	22	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
94	22	1	3	2	1	1	1	2	2	1	1	4	1	1	0	0	0	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
95	18	1	3	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	PHY
96	28	1	4	1	1	1	3	2	1	1	1	4	1	1	0	0	0	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
97	40	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
98	33	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
99	40	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	5	1	N	N	N	N	N	NO	CAN
100	24	1	3	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
101	18	1	4	2	1	1	1	2	4	4	7	4	1	1	0	0	0	6	1	1	1	1	1	5	4	1	1	1	1	1	1	2	1	N	N	N	N	N	NO	NV
102	30	1	4	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	2	1	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
103	42	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	CAN
104	30	1	3	1	2	2	4	1	1	1	6	3	1	0	0	0	0	6	1	1	2	2	1	6	3	2	2	2	2	2	1	3,4	2	P	P	P	p	n	YES	TV/MPC/HIV
105	28	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	1	2	3	2	4	3	1	1	2	1	1	2	4	1	p	p	p	n	n	NO	TV
106	40	1	3	1	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
107	23	1	3	2	1	1	1	2	2	1	1	4	1	1	0	0	0	6	1	1	2	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
108	36	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
109	24	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
110	23	1	4	0	1	1	1	2	2	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
111	48	1	4	0	1	1	1	2	1	1	7	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
112	38	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	5	1	N	N	N	N	N	NO	CAN
113	35	1	4	0	1	1	1	2	1	1	7	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
114	31	1	4	0	1	1	1	2	1	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
115	47	1	3	2	1	1	1	1	1	2	7	4	1	1	0	0	0	6	1	1	2	1	2	5	1	2	1	1	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
116	27	1	3	2	1	1	1	1	3	2	1	4	1	1	0	0	0	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	PHY
117	31	1	3	2	1	1	1	1	3	1	3	4	1	1	0	0	0	6	1	1	2	2	2	3	1	1	1	2	2	1	1	1	1	N	N	N	N	N	NO	BV
118	45	1	4	1	1	1	1	1	1	1	6	4	1	1	0	0	0	6	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1	N	N	N	N	N	NO	NV

serialno	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstretic history	Symptoms in partner	Past h/o PID/infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	grams staim of cervical dx	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
119	30	2	3	0	1	1	1	1	2	2	7	4	1	1	0	0	0	6	1	1	2	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
120	25	1	4	2	1	1	3	1	2	2	6	4	1	1	0	0	0	6	1	1	1	1	1	2	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
121	27	1	3	1	1	1	2	1	3	1	1	4	1	1	0	0	0	6	1	1	2	2	1	1	1	1	1	1	2	3	2	5	1	N	N	N	N	N	NO	CAN
122	24	1	4	1	2	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	6	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	NV
123	35	1	4	0	1	1	1	1	1	2	6	4	1	1	0	0	0	6	1	1	2	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
124	19	1	4	2	2	1	4	1	4	4	6	4	1	1	0	0	0	6	1	1	2	2	1	3	1	1	1	1	2	1	1	1,4	1	N	N	N	N	N	NO	BV
125	26	1	3	1	1	1	1	1	2	2	6	4	1	1	0	0	0	6	1	1	2	1	1	6	1	1	1	2	1	4	12	6	1	N	N	N	N	N	NO	NV
126	45	1	3	2	1	1	2	1	1	1	3	4	1	1	0	0	0	6	3	1	2	1	1	1	1	1	1	1	1	3	1	6	1	N	N	N	N	N	NO	CAN
127	40	1	3	1	1	1	3	1	1	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
128	31	1	3	0	1	1	1	1	1	2	6	4	1	1	0	0	0	6	3	1	2	1	1	6	1	1	1	1	2	3	2	6	1	N	N	N	N	N	NO	NV
129	21	1	4	1	1	1	3	1	2	1	6	4	1	1	0	0	0	6	1	1	2	1	1	3	1	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
130	38	1	4	1	1	1	1	1	2	2	1	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	1	1	N	N	N	N	N	NO	NV
131	36	1	4	0	1	1	1	2	1	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
132	33	1	4	1	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
133	40	1	3	2	1	1	1	2	1	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
134	55	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	5	1	N	N	N	N	N	NO	CAN
135	25	1	3	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
136	25	1	4	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
137	35	1	3	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	2	1	N	N	N	N	N	NO	others
138	26	1	4	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
139	43	1	2	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
140	36	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
141	29	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
142	35	1	3	1	1	1	1	1	1	1	1	4	1	2	0	0	0	6	1	1	2	2	1	6	1	1	2	2	2	1	2	4	1	P	P	P	n	n	NO	TV
143	27	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
144	50	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
145	40	1	2	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
146	36	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
147	20	2	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
148	28	1	3	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV

serialno	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstretic history	Symptoms in partner	Past h/o PID/infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	grams staim of cervical dx	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
149	50	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
150	28	1	3	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
151	32	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
152	32	1	3	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
153	30	1	2	1	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	2	1	3	2	1	1	2	2	4	1	1	1	n	n	n	n	n	NO	BV
154	28	1	4	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
155	33	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	6	1	N	N	N	N	N	NO	CAN
156	26	1	3	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
157	28	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
158	36	1	2	1	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	2	1	3	2	1	1	2	2	4	1	1	1	n	n	n	n	n	NO	BV
159	42	1	3	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
160	45	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	1	1	3.5	1	N	N	N	N	N	NO	CAN
161	39	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	5	1	N	N	N	N	N	NO	CAN
162	40	1	4	0	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
163	28	1	3	1	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	2	3	4	3	1	1	2	2	2	1	1,3	1	P	P	P	N	N	YES	TV/BV
164	32	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
165	48	1	3	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
166	30	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
167	35	2	3	1	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	5	1	N	N	N	N	N	NO	CAN
168	54	1	3	1	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	5	1	N	N	N	N	N	NO	CAN
169	21	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
170	50	1	4	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
171	50	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
172	30	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	5	1	N	N	N	N	N	NO	CAN
173	28	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	HIV
174	50	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	CAN
175	40	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
176	48	1	4	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
177	45	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
178	28	1	4	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV

serialno	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstretic history	Symptoms in partner	Past h/o PID/infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	grams staim of cervical dx	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
179	30	1	4	1	1	2	3	1	1	1	2	4	1	0	0	0	0	6	1	1	2	2	1	5	1	1	1	1	1	1	1	6	1	P	P	P	N	N	NO	TV
180	23	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
181	55	1	3	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	PHY
182	19	1	3	1	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	1	1	2	1	1	1	2	2	2	1	1,4	1	P	P	P	N	N	YES	TV/BV
183	22	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
184	41	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
185	41	1	4	1	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
186	36	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
187	30	1	3	1	2	2	3	1	1	2	1	4	1	1	0	0	0	6	1	1	2	3	2	5	1	1	1	2	2	2	1	4	1	N	P	P	P	N	YES	TV/BV
188	38	2	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
189	55	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
190	28	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	CAN
191	46	1	2	1	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	2	1	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
192	36	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
193	33	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
194	34	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
195	20	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	HIV
196	28	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
197	32	1	2	1	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	2	1	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
198	22	1	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	5	1	N	N	N	N	N	NO	CAN
199	18	1	4	0	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
200	28	1	4	0	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
201	27	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	HIV
202	45	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
203	25	2	2	1	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	2	1	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
204	25	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
205	24	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
206	27	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
207	28	1	3	0	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	CAN/BV
208	38	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC

serialno	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstretic history	Symptoms in partner	Past h/o PID/infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	grams staim of cervical dx	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
209	36	1	4	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
210	55	1	4	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
211	56	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
212	18	1	4	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
213	38	1	4	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
214	19	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
215	36	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
216	27	2	4	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
217	35	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
218	37	2	3	2	1	1	1	1	2	2	1	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	5	1	N	N	N	N	N	NO	CAN
219	39	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
220	26	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
221	26	1	4	0	1	1	1	2	3	2	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
222	25	1	2	1	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	2	1	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
223	27	1	2	1	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	2	1	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
224	29	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
225	37	1	3	2	1	1	1	1	2	1	7	4	1	1	0	0	0	6	2	1	2	3	1	1	1	1	1	1	1	3	1	5	1	N	N	N	N	N	NO	CAN
226	35	1	3	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	PHY
227	45	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
228	30	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
229	20	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
230	24	1	4	0	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
231	24	1	3	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	others
232	40	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
233	35	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
234	48	1	3	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	CAN
235	22	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
236	35	1	2	1	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	2	1	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
237	40	1	4	2	1	1	1	1	1	1	7	4	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
238	21	1	3	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	NV

serialno	Age (yrs)	Residence	SE status	Educational status	Marital status	Pre/extramarital contact	Husband with extramarital contact	Involvement in prostitution	Contraception	obstretic history	Symptoms in partner	Past h/o PID/infertility	Treatment received within 3 months	Substance abuse	Age at onset (yrs)	Duration of vaginal discharge (days)	Relation to menstruation	others	Vulvar examination	Genital ulcers	vaginal discharge	Discharge amount	Discharge odour	Discharge consistency	Discharge colour	Cervical examination	Adnexal tenderness	pH range	Whiff test	Wet mount	KOH mount	grams staim of cervical dx	Pap Smear	Trichomonas culture on 3rd day	Trichomonas culture on 5th day	Trichomonas culture on 7th day	HIV	VDRL	Coexisting STI	Diagnosis
239	23	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	PHY
240	35	1	3	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	5	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	NV
241	34	1	3	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	2	2	1	5	1	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
242	24	1	2	1	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	1	1	1	6	1	1	1	1	1	1	1	5	1	N	N	N	N	N	NO	NV
243	36	1	3	1	1	1	1	1	1	1	7	4	1	1	0	0	0	3	1	1	2	2	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
244	36	2	3	1	1	1	1	1	1	1	7	4	1	1	0	0	0	3	1	1	2	2	2	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV/CAN
245	38	1	4	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	2	2	1	5	4	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
246	40	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
247	35	1	4	2	1	2	1	1	1	1	2	4	1	1	0	0	0	6	2	1	2	3	2	6	3	1	1	2	1	1	1	3,4	1	N	N	N	N	N	NO	MPC
248	23	1	4	2	1	1	1	2	3	1	1	4	1	1	0	0	0	6	1	1	2	1	1	6	4	1	1	1	1	1	1	6	1	N	N	N	N	N	NO	NV
249	45	1	2	1	1	1	1	1	1	2	1	4	1	1	0	0	0	6	1	1	2	2	1	3	2	1	1	2	2	4	1	1	1	N	N	N	N	N	NO	BV
250	35	2	3	1	1	1	3	1	1	2	1	3	1	1	0	0	0	6	1	1	2	2	1	6	1	1	1	2	1	2	1	6	1	P	P	P	P	N	YES	TV/BV

MASTER CHART CODING

A. Serial number

B. Std op number

C. Age

D. Socioeconomic status:

1 Upper middle.

2 Lower middle.

3 Upper lower.

4. Lower lower

E. Education status:

1. Nil

2. 6^{th-} $10^{th3.}$

3. Graduate

4 Professional

F. Marital status :

1. Married

2.Single women

3. Widow

G. Pre/extramarital status:

1. Absent 2.present

H. Husband with extra marital contact: 1 Absent

2 Present

3 Unknown

4 Notapplicable

I. Involvement in prostitution 1.No 2.Yes

J. Contraception:-

1. Sterilization 2.Barrier 3.IUCD 4. Nil

K. Obestretic history :

1. Normal delivery 2.LSCS 3.Abortion 4.nil

L. Symptoms in partner:

1 Unknown

2 .Urethritis

3 .Dysuria

4 .Balanitis

5 .Pruritus

6 .Others

7.NIL

M. Past history PID /infertility/PVD :

1.PID

2.infertility

3.veneral disease

4.absent

N. Treatment received in past 3 weeks: 1.No 2.Yes

O. Substance abuse: 1.No 2.Yes

P. Age at onset:-

Q. Duration of vaginal discharge:-

R. Relation to menstruation: 1. No 2.yes

S. Other symptoms

1. Vulval itching 6.None
2. Dysuria 7.Ulcer
3. Lower abdominal pain 8. Growth/swelling
4. Dyspareunia
5. Post coital bleeding

[P,Q ,R,S is not applicable in asymptomatic group]

T. Vulvar examination 1. Normal 2. Erythema 3.Growth 4.Ulcer

U. Genital ulcer 1. Absent 2. Present

V. Vaginal Discharge: 1. Absent 2. Present

W. Discharge amount: 1. Scanty 2. Moderate 3.Profuse

X. Discharge odour

1. Odourless 2.Foul smelling 3 Fishy

Y. Discharge consistency

1. Curdy 2. Flocculent 3. Thick homogeneous 4 .Frothy 5 Watery 6. Mucoid

Z. Discharge color:

1.White 2. Greyish 3.Purulent 4. Serosanguinous

AA. Cervical Examination:

1. Normal 2.Erosion 3.Growth 4.Erythema 5. Not examined

AB. Adenexal tenderness:- 1.No 2. Yes

AC.Ph range: 1. < 4.5 2. >4.5

AD. Whiff test: 1 negative 2 positive

AE.Wet mount : 1 negative 2 TV 3 yeast cells 4clue cells

AF. KOH mount: 1 negative 2 budding yeast cells

AG. Grams stain:

1 clue cells

2 Gram positive rods

3 Epithelial cells

4 Pus cells

5 Yeast cells

6 TV

AH.Pap smear:

1 Normal 2.TV . 3.HGSIL 4.SCC 5.AGNOS 6. ASCUS 7.Adenocarcinoma

AI. Trichomonas culture :

AI. 2^{nd} & 3^{rd} day present absent

AJ. 5^{th} day present absent

AK. 7^{th} day present absent

AL. HIV 1. NonReactive 2 Reactive

AM. VDRL 1. Negative 2. positive

AN. Coexistent STI: 1.No 2.Yes

AO. Final diagnosis

TV: Trichomonas vaginalis

BV: Bacterial vaginalis

MPC: Mucopurulent Cervicitis

CAN: Candidiasis

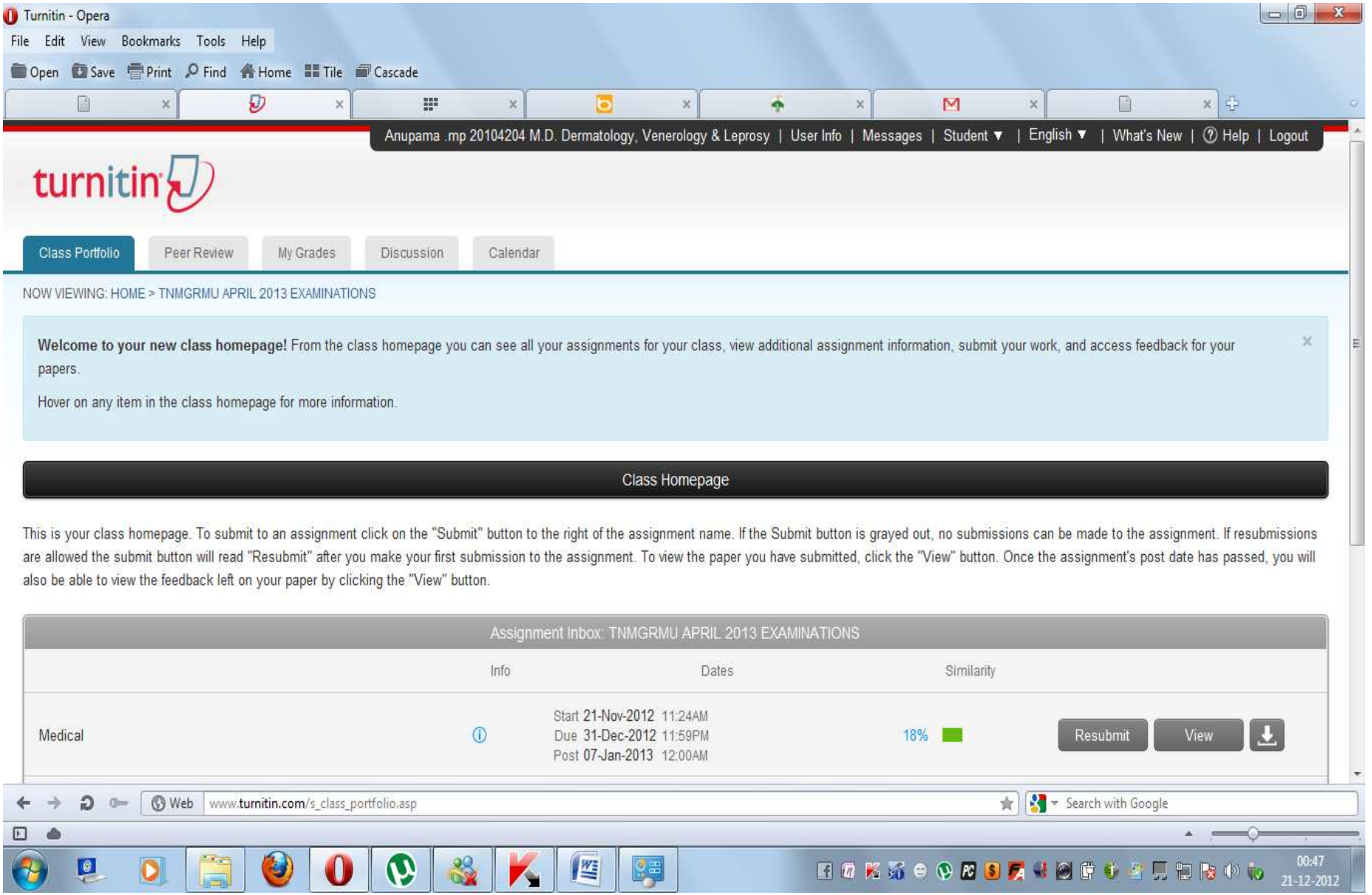
HERPES: Herpes Genitalis

HIV: Human Immunodeficiency Virus

BC: Bartholin's Cyst

LC: Lymphangioma Circumcriptum

HEP-B: Hepatitis B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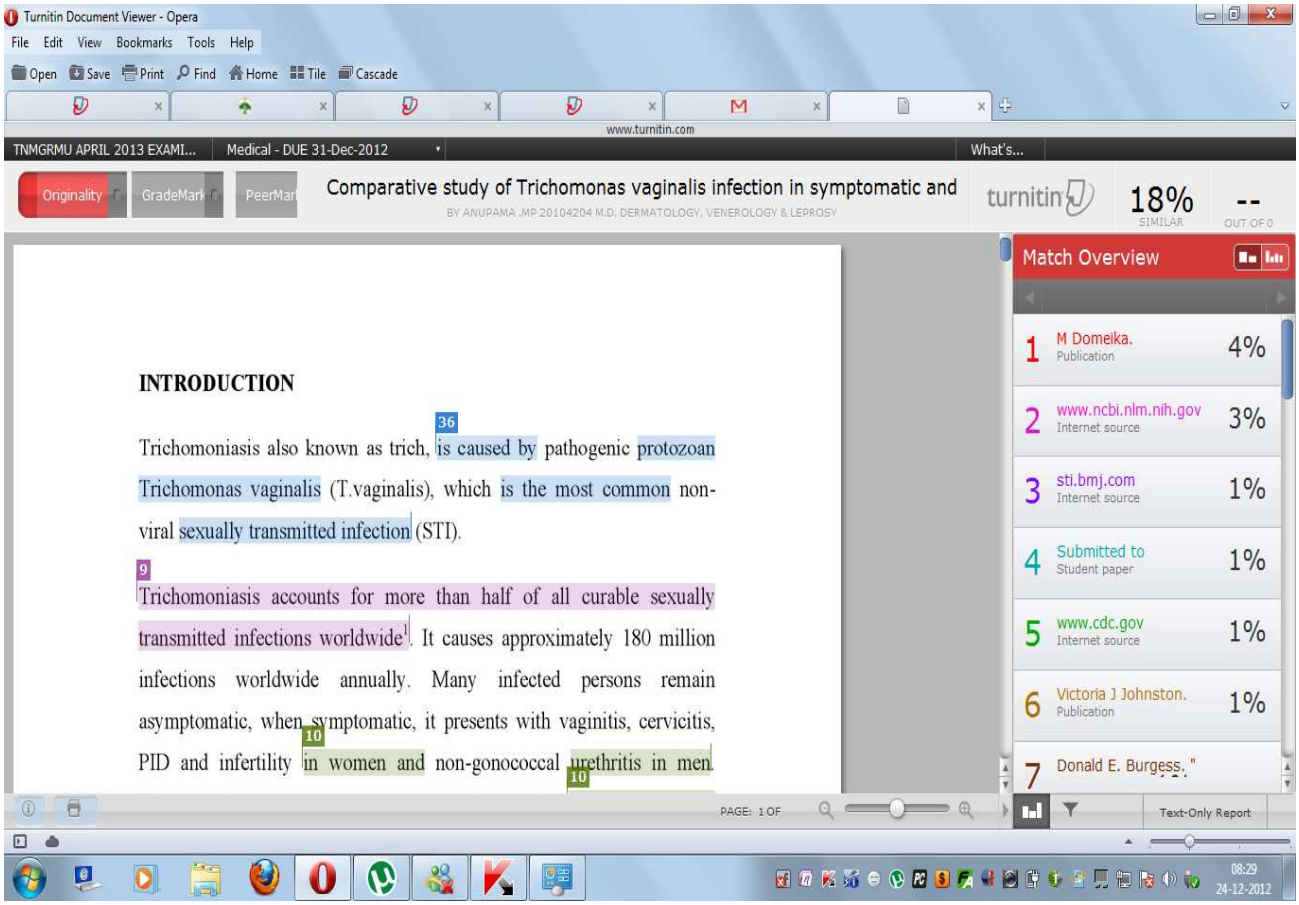
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Trichomoniasis also known as trich, is caused by pathogenic protozoan Trichomonas vaginalis (T.vaginalis), which is the most common non-viral sexually transmitted infection (STI).
Trichomoniasis accounts for more than half of all curable sexually transmitted infections worldwide. It causes approximately 180 million infections worldwide annually. Many infected persons remain asymptomatic, when symptomatic, it presents with vaginitis, cervicitis, PID and infertility in women and non-gonococcal urethritis in men
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